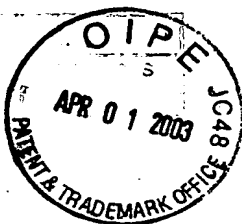


FIG. 1





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GCTCAGCAGC AGGTGCGGGC GCGAGCCCCA TCCAGCCCCG GCGCGCCATG CCGTCCGCGG 60
GCCCCGCCTG AGCTGCGGGC TCCGCGGGCG GCGGGGCTG GGGACGGCGG GGCCATGCGC 120
GCGCTGCCCT AACG ATG CCG CCC GCG CCC GCG CTG GCG CTG GCG 170
Met Pro Ala Ala Pro Ala Arg Leu Ala Leu Ala 10
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CTG GCG CTG GCG CTG TGG CTC GGG GCG CTG GCG GGG GCG CCC GCG GCG 218
Leu Gly Leu Gly Leu Trp Leu Gly Ala Leu Ala Gly Gly Pro Gly Arg 25
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GGC TGC GGG CCC TGC GAG CCC CCC TGC CTC TGC GGC CCA GCG CCC GCG 266
Gly Cys Gly Pro Cys Glu Pro Pro Cys Leu Cys Gly Pro Ala Pro Gly 30 35 40
GCC GCC TGC CCG GTC AAC TGC TCG GGC CCG GCG CTG CCG ACG CTC GGT 314
Ala Ala Cys Arg Val Asn Cys Ser Gly Arg Gly Leu Arg Thr Leu Gly 45 50 55 60
CCC GCG CTG CCG ATC CCC GCG GAC GCC ACA GCG CTA GAC GTC TCC CAC 362
Pro Ala Leu Arg Ile Pro Ala Asp Ala Thr Ala Leu Asp Val Ser His 65 70 75
AAC CTG CTC CCG GCG CTG GAC GTT GGG CTC CTG GCG AAC CTC TCG GCG 410
Asn Leu Leu Arg Ala Leu Asp Val Gly Leu Leu Ala Asn Leu Ser Ala 80 85 90

FIG. 1A



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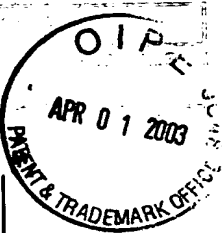
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10000
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10235



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CTT CAG CCA GAG GCC TGC AGC GCC TTC TGC TTC TCC ACC GGC CAG GGC Leu Gln Pro Glu Ala Cys Ser Ala Phe Cys Phe Ser Thr Gly Gln Gly 205 210 215 220 794
CTC GCA GCC CTC TCG GAG CAG GCC TGG TGC CTG TGT GGG GCG GCC CAG Leu Ala Ala Leu Ser Glu Ser Gln Gly Trp Cys Leu Cys Gly Ala Ala Gln 225 230 235 842
CCC TCC AGT GCC TCC TTT GCC TGC CTG TCC CTC TGC TCC GGC CCC CCG Pro Ser Ser Ala Ser Phe Ala Cys Leu Ser Leu Cys Ser Gly Pro Pro 240 245 250 890
CCA CCT CCT GCC CCC ACC TGT AGG GGC CCC ACC CTC CTC CAG CAC GTC Pro Pro Pro Ala Pro Thr Cys Arg Gly Pro Thr Leu Leu Gln His Val 255 260 265 938
TTC CCT GCC TCC CCA GGG GCC ACC CTG GTG GGG CCC CAC GGA CCT CTG Phe Pro Ala Ser Pro Gly Ala Thr Leu Val Gly Pro His Gly Pro Leu 270 275 280 986
GCC TCT GGC CAG CTA GCA GCC TCC CAC ATC GCT GCC CCG CTC CCT GTC Ala Ser Gly Gln Leu Ala Ala Phe His Ile Ala Ala Pro Leu Pro Val 285 290 295 300 1034
ACT GCC ACA CGC TGG GAC TTC GGA GAC GGC TCC GCC GAG GTG GAT GCC Thr Ala Thr Arg Trp Asp Phe Gly Asp Gly Ser Ala Glu Val Asp Ala 305 310 315 1082

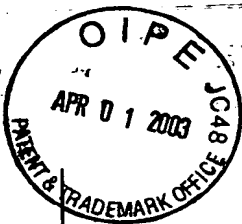
FIG. 1C



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GCT GGG CCG GCT GCC TCG CAT CGC TAT GTG CTG CCT GGG CGC TAT CAC Ala Gly Pro Ala Ala Ser His Arg Tyr Val Leu Pro Gly Arg Tyr His 320 325 330	1130
GTG ACG GCC GTG CTG GCC CTG GCG GCG TCA GCC CTG CTG GGG ACA Val Thr Ala Val Leu Ala Leu Gly Ala Gly Ser Ala Leu Leu Gly Thr 335 340 345	1178
GAC GTG CAG GTG GAA GCG GCA CCT GCC GCG CTG GAG CTC GTG TGC CCG Asp Val Gln Val Glu Ala Ala Pro Ala Ala Leu Glu Leu Val Cys Pro 350 355 360	1226
TCC TCG GTG CAG AGT GAC GAG AGC CTC GAC CTC AGC ATC CAG AAC CGC Ser Ser Val Gln Ser Asp Glu Ser Leu Asp Leu Ser Ile Gln Asn Arg 365 370 375 380	1274
GGT GGT TCA GCG CTG GAG GCC GCG TAC AGC ATC GTG GCC CTG GGC GAG Gly Gly Ser Gly Leu Glu Ala Ala Tyr Ser Ile Val Ala Leu Gly Glu 385 390 395	1322
GAG CCG GCC CGA GCG GTG CAC CCG CTC TGC CCC TCG GAC ACG GAG ATC Glu Pro Ala Arg Ala Val His Pro Leu Cys Pro Ser Asp Thr Glu Ile 400 405 410	1370
TTC CCT GCG AAC GGG CAC TGC TAC CGC CTG GTG GAG AAG GCG GCC Phe Pro Gly Asn Gly His Cys Tyr Arg Leu Val Val Glu Lys Ala Ala 415 420 425	1418

FIG. 1D



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TGG CTG CAG GCG CAG GAG TGT CAG GCC TGG GCC GGG GCC GCC CTG	1466
Trp Leu Gln Ala Gln Glu Gln Cys Gln Ala Trp Ala Gly Ala Ala Leu	
430	
435	
440	
GCA ATG GTG GAC AGT CCC GCG GTG CAG CGC TTC CTG GTC TCC CGG GTC	1514
Ala Met Val Asp Ser Pro Ala Val Gln Arg Phe Leu Val Ser Arg Val	
445	
450	
455	
460	
ACC AGG TGC CTA GAC GTG TGG ATC GGC TTC TCG ACT GTG CAG GGG GTG	1562
Thr Arg Cys Leu Asp Val Trp Ile Gly Phe Ser Thr Val Gln Gly Val	
465	
470	
475	
GAG GTG GCG CCA GCG CCG CAG GCG GAG TTC AGC CTG GAG AGC TGC	1610
Glu Val Gly Pro Ala Pro Gln Gly Glu Ala Phe Ser Leu Glu Ser Cys	
480	
485	
490	
CAG AAC TGG CTG CCC GGG GAG CCA CAC GCC ACA GCC GAG CAC TGC	1658
Gln Asn Trp Leu Pro Gly Glu Pro His Pro Ala Thr Ala Glu His Cys	
495	
500	
505	
GTC CCG CTC GGG CCC ACC GGG TGG TGT AAC ACC GAC CTG TGC TCA GCG	1706
Val Arg Leu Gly Pro Thr Gly Trp Cys Asn Thr Asp Leu Cys Ser Ala	
510	
520	
525	
CCG CAC AGC TAC GTC TGC GAG CTG CAG CCC GGA GGC CCA GTG CAG GAT	1754
Pro His Ser Tyr Val Cys Glu Leu Gln Pro Gly Gly Pro Val Gln Asp	
525	
530	
535	
540	

FIG. 1E



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GCC GAG AAC CTC CTC GTG GGA GCG CCC AGT GGG GAC CTG CAG GGA CCC Ala Glu Asn Leu Leu Val Gly Ala Pro Ser Gly Asp Leu Glu Gln Gly Pro 545 550 555	1802
CTG ACG CCT CTC GCA CAG CAG GAC GAC GCG CTC TCA GCC CCG CAC GAG CCC Leu Thr Pro Leu Ala Gln Gln Asp Gly Leu Ser Ala Pro His Glu Pro 560 565 570	1850
GTG GAG GTC ATG GTA TTC CCG GCG CTC CGT CTC AGC CGT GAA GCC TTC Val Glu Val Met Val Phe Pro Gly Leu Arg Leu Ser Arg Glu Ala Phe 575 580 585	1898
CTC ACC ACG GCC GAA TTT GGG ACC CAG GAG CTC CCG CCG CCC GCC CAG Leu Thr Thr Ala Glu Phe Gly Thr Gln Glu Leu Arg Arg Pro Ala Gln 590 595 600	1946
CTG CCG CTC CAG GTG TAC CCG CTC CTC AGC ACA GCA GGG ACC CCG GAG Leu Arg Leu Gln Val Tyr Arg Leu Leu Ser Thr Ala Gly Thr Pro Glu 605 610 615 620	1994
AAC GGC AGC GAG CCT GAG AGC AGG TCC CCG GAC AAC AGG ACC CAG CTG Asn Gly Ser Glu Pro Glu Ser Arg Ser Pro Asp Asn Arg Thr Gln Leu 625 630 635	2042
GCC CCC GCG TGC ATG CCA GGG GGA CGC TGG TGC CCT GGA GCC AAC ATC Ala Pro Ala Cys Met Pro Gly Gly Arg Trp Cys Pro Gly Ala Asn Ile 640 645 650	2090

FIG. 1F



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TGC TTG CCG CTG GAC GCC TCC TGC CAC CCC CAG GCC TGC GCC AAT GGC Cys Leu Pro Leu Asp Ala Ser 655 660 665	2138
TGC ACG TCA GGG CCA GGG CTA CCC GGG GCC CCC TAT GCG CTA TGG ACA Cys Thr Ser Gly Pro Gly Leu Pro Gly Ala Pro Tyr Ala Leu Trp Arg 670 675 680	2186
GAG TTC CTC TTC TCC GTT CCC GCG GGG CCC CCC CAG TAC TCG GTC Glu Phe Leu Phe Ser Val Pro Ala Gly Pro Pro Ala Gln Tyr Ser Val 685 690 695 700	2234
ACC CTC CAC GGC CAG GAT GTC CTC ATG CTC CCT GGT GAC CTC GTT GGC Thr Leu His Gly Gln Asp Val Leu Met Leu Pro Gly Asp Leu Val Gly 705 710 715	2282
TTG CAG CAC GAC GCT GGC CCT GGC GCC CTC CTG CAC TGC TCG CCG GCT Leu Gln His Asp Ala Gly Pro Gly Ala Leu Leu His Cys Ser Pro Ala 720 725 730	2330
CCC GGC CAC CCT GGT CCC CGG GCC CCG TAC CTC TCC GCC AAC GCC TCG Pro Gly His Pro Gly Pro Arg Ala Pro Tyr Leu Ser Ala Asn Ala Ser 735 740 745	2378
TCA TGG CTG CCC CAC TTG CCA GCC CAG CTG GAG GCC ACT TGG GCC TGC Ser Trp Leu Pro His Leu Pro Ala Gln Leu Glu Gly Thr Trp Ala Cys 750 755 760	2426

FIG. 1G



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CCT GCC TGT GCC CTG CGG CTG CTT GCA GCC ACG GAA CAG CTC ACC GTG	2474
Pro Ala Cys Ala Leu Arg Leu Leu Ala Ala Thr Glu Gln Leu Thr Val	
765 770 775 780	
CTG CTG GGC TTG AGG CCC AAC CCT GGA CTG CGG CTG CCT GGG CGC TAT	2522
Leu Leu Gly Leu Arg Pro Asn Pro Gly Leu Arg Leu Pro Gly Arg Tyr	
785 790 795	
GAG GTC CGG GCA GAG GTG GGC AAT GGC GTG TCC AGG CAC AAC CTC TCC	2570
Glu Val Arg Ala Glu Val Gly Asn Gly Val Ser Arg His Asn Leu Ser	
800 805 810	
TGC AGC TTT GAC GTG GTC TCC CCA GTG GCT GGG CTG CGG GTC ATC TAC	2618
Cys Ser Phe Asp Val Val Ser Pro Val Ala Gly Leu Arg Val Ile Tyr	
815 820 825	
CCT GCC CCC CGC GAC GGC CGC CTC TAC GTG CCC ACC AAC GGC TCA GCC	2666
Pro Ala Pro Arg Asp Gly Arg Leu Tyr Val Pro Thr Asn Gly Ser Ala	
830 835 840	
TTG GTG CTC CAG GTG GAC TCT GGT GCC AAC GCC ACG GCC ACG GCT CGC	2714
Leu Val Leu Gln Val Asp Ser Gly Ala Asn Ala Thr Ala Thr Ala Arg	
845 850 855 860	
TGG CCT GGG GGC AGT GTC AGC GCC CGC TTT GAG AAT GTC TGC CCT GCC	2762
Trp Pro Gly Gly Ser Val Ser Ala Arg Phe Glu Asn Val Cys Pro Ala	
865 870 875	

FIG. 1H



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CTG GTG GCC ACC TTC GTG CCC GGC TGC CCC TGG GAG ACC AAC GAT ACC 2810
Leu Val Ala Thr Phe Val Pro Gly Cys Pro Trp Glu Thr Asn Asp Thr 885
880

CTG TTC TCA GTG GTA GCA CTG CCG TGG CTG AGT GAG GGG GAG CAC GTG 2858
Leu Phe Ser Val Val Ala Leu Pro Trp Leu Ser Glu Gly Glu His Val 895
890

GTG GAC GTG GTG GTG GAA AAC AGC GCC AGC CGG GCC AAC CTC AGC CTG 2906
Val Asp Val Val Val Glu Asn Ser Ala Ser Arg Ala Asn Leu Ser Leu 910
915

CGG GTG ACG GCG GAG GAG CCC ATC TGT GGC CTC CGC GCC ACG CCC AGC 2954
Arg Val Thr Ala Glu Glu Pro Ile Cys Gly Leu Arg Ala Thr Pro Ser 925
930

CCC GAG GCC CGT GTA CTG CAG GGA GTC CTA GTG AGG TAC AGC CCC GTG 3002
Pro Glu Ala Arg Val Leu Gln Gly Val Leu Val Arg Tyr Ser Pro Val 945
950

GTG GAG GCC GGC TCG GAC ATG GTC TTC CGG TGG ACC ATC AAC GAC AAG 3050
Val Glu Ala Gly Ser Asp Met Val Phe Arg Trp Thr Ile Asn Asp Lys 960
965

CAG TCC CTG ACC TTC CAG AAC GTG GTC TTC AAT GTC ATT TAT CAG AGC 3098
Gln Ser Leu Thr Phe Gln Asn Val Val Phe Asn Val Ile Tyr Gln Ser 975
980

FIG. 11

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GCG GCG GTC TTC AAG CTC TCA CTG ACG GCC TCC AAC CAC GTG AGC AAC 3146
Ala Ala Val Phe Lys Leu Ser Leu Thr Ala Ser Asn His Val Ser Asn
990 1000

GTC ACC GTG AAC TAC AAC GTA ACC GTG GAG CGG ATG AAC AGG ATG CAG 3194
Val Thr Val Asn Tyr Asn Val Thr Val Glu Arg Met Asn Arg Met Gln
1005 1010 1015 1020

GGT CTG CAG GTC TCC ACA GTG CCG GCC GTG CTG TCC CCC AAT GCC ACG 3242
Gly Leu Gln Val Ser Thr Val Pro Ala Val Leu Ser Pro Asn Ala Thr
1025 1030 1035

CTA GCA CTG ACG GCG GGC GTG CTG GTG GAC TCG GCC GTG GAG GTG GCC 3290
Leu Ala Leu Thr Ala Gly Val Leu Val Asp Ser Ala Val Glu Val Ala
1040 1045 1050

TTC CTG TGG ACC TTT GGG GAT GGG GAG CAG GCC CTC CAC CAG TTC CAG 3338
Phe Leu Trp Thr Phe Gly Asp Gly Glu Gln Ala Leu His Gln Phe Gln
1055 1060 1065

CCT CCG TAC AAC GAG TCC TTC CCG GTT CCA GAC CCC TCG GTG GCC CAG 3386
Pro Pro Tyr Asn Glu Ser Phe Pro Val Pro Asp Pro Ser Val Ala Gln
1070 1075 1080

GTG CTG GTG GAG CAC AAT GTC ATG CAC ACC TAC GCT GCC CCA GGT GAG 3434
Val Leu Val Glu His Asn Val Met His Thr Tyr Ala Ala Pro Gly Glu
1085 1090 1095 1100

FIG. 1J



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TAC CTC CTG ACC GTG CTG GCA TCT AAT GCC TTC GAG AAC CTG ACG CAG Tyr Leu Leu Thr Val Leu Ala Ser Asn Ala Phe Glu Asn Leu Thr Gln 1105 1110 1115	3482
CAG GTG CCT GTG AGC GTG CGC GCC TCC CTG CCC TCC GTG GCT GTG GGT Gln Val Pro Val Ser Val Arg Ala Ser Leu Pro Ser Val Ala Val Gly 1120 1125 1130	3530
GTG AGT GAC GGC GTC CTG GTG GCC GGC CGG CCC GTC ACC TTC TAC CCG Val Ser Asp Gly Val Leu Val Ala Gly Arg Pro Val Thr Phe Tyr Pro 1135 1140 1145	3578
CAC CCG CTG CCC TCG CCT GGG GGT GTT CTT TAC ACG TGG GAC TTC GGG His Pro Leu Pro Ser Pro Gly Gly Val Leu Tyr Thr Trp Asp Phe Gly 1150 1155 1160	3626
GAC GGC TCC CCT GTC CTG ACC CAG AGC CAG CCG GCT GCC AAC CAC ACC Asp Gly Ser Pro Val Leu Thr Gln Ser Gln Pro Ala Ala Asn His Thr 1165 1170 1175 1180	3674
TAT GCC TCG AGG GGC ACC TAC CAC GTG CGC CTG GAG GTC AAC AAC ACG Tyr Ala Ser Arg Gly Thr Tyr His Val Arg Leu Glu Val Asn Asn Thr 1185 1190 1195	3722
GTG AGC GGT GCG GCG GCC CAG GCG GAT GTG CGC GTC TTT GAG GAG CTC Val Ser Gly Ala Ala Ala Gln Ala Asp Val Arg Val Phe Glu Glu Leu 1200 1205 1210	3770

FIG. 1K



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CGC GGA CTC AGC GTG GAC ATG AGC CTG GCC GTG GAG CAG GGC GCC CCC 3818
Arg Gly Leu Ser Val Asp Met Ser Leu Ala Val Glu Gln Gly Ala Pro
1215 1220 1225

GTG GTG GTC AGC GCC GCG GTG CAG AGC GGC GAC AAC ATC ACG TGG ACC 3866
Val Val Val Ser Ala Ala Val Gln Thr Gly Asp Asn Ile Thr Trp Thr
1230 1235 1240

TTC GAC ATG GGG GAC GGC ACC GTG CTG TCG GCG CCG GAG GCA ACA GTG 3914
Phe Asp Met Gly Asp Gly Thr Val Leu Ser Gly Pro Glu Ala Thr Val
1245 1250 1255 1260

GAG CAT GTG TAC CTG CCG GCA CAG AAC TGC ACA GTG ACC GTG GGT GCG 3962
Glu His Val Tyr Leu Arg Ala Gln Asn Cys Thr Val Thr Val Gly Ala
1265 1270 1275

GCC AGC CCC GCC CAC CTG GCC CGG AGC CTG CAC GTG CTG GTC TTC 4010
Ala Ser Pro Ala Gly His Leu Ala Arg Ser Leu His Val Leu Val Phe
1280 1285 1290

GTC CTG GAG GTG CTG CGC GTT GAA CCC GCC GCC TGC ATC CCC ACG CAG 4058
Val Leu Glu Val Leu Arg Val Glu Pro Ala Ala Cys Ile Pro Thr Gln
1295 1300 1305

CCT GAC CCG CCG CTC ACG GCC TAC GTC ACC GGG AAC CCG GCC CAC TAC 4106
Pro Asp Ala Arg Leu Thr Ala Tyr Val Thr Gly Asn Pro Ala His Tyr
1310 1315 1320

FIG. 1L



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CTC TTC GAC TGG ACC TTC GGG GAT GGC TCC AAC ACG ACC GTG CGG Leu Phe Asp Trp Thr Phe Gly Asp Gly Ser Ser Asn Thr Thr Val Arg 1325 1330 1335 1340	4154
GGG TGC CCG ACG GTG ACA CAC AAC TTC ACG CGG AGC GGC ACG TTC CCC Gly Cys Pro Thr Thr Val Thr His Asn Phe Thr Arg Ser Gly Thr Phe Pro 1345 1350 1355	4202
CTG GCG CTG GTG CTG TCC AGC CGC GTG AAC AGG GCG CAT TAC TTC ACC Leu Ala Leu Val Leu Ser Ser Arg Val Asn Arg Ala His Tyr Phe Thr 1360 1365 1370	4250
AGC ATC TGC GTG GAG CCA GAG GTG GGC AAC GTC ACC CTG CAG CCA GAG Ser Ile Cys Val Glu Pro Glu Val Gly Asn Val Thr Leu Gln Pro Glu 1375 1380 1385	4298
AGG CAG TTT GTG CAG CTC GGG GAC GAG GCC TGG CTG GTG GCA TGT GCC Arg Gln Phe Val Gln Leu Leu Gly Asp Glu Ala Trp Leu Val Ala Cys Ala 1390 1395 1400	4346
TGG CCC CCG TTC CCC TAC CCG TAC ACC TGG GAC TTT GGC ACC GAG GAA Trp Pro Pro Phe Pro Tyr Arg Tyr Thr Trp Asp Phe Gly Thr Glu Glu 1405 1410 1415 1420	4394
GCC GCC CCC TCC CGT GCC AGG GGC CCT GAG GTG ACG TTC ATC TAC CGA Ala Ala Pro Thr Arg Ala Arg Gly Pro Glu Val Thr Phe Ile Tyr Arg 1425 1430 1435	4442

FIG. 1M



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GAC CCA GGC TCC TAT CTT GTG ACA GTC ACC GCG TCC AAC AAC ATC TCT Asp Pro Gly Ser Tyr Leu Val Thr Val Thr Ala Ser Asn Asn Ile Ser 1440 1445 1450	4490
GCT GCC AAT GAC TCA GCC CTG GTG GAG GTG CAG GAG CCC GTG CTG GTC Ala Ala Asn Asp Ser Ala Leu Val Glu Val Glu Val Glu Pro Val Leu Val 1455 1460 1465	4538
ACC AGC ATC AAG GTC AAT GGC TCC CTT GGG CTG GAG CTG CAG CAG CCG Thr Ser Ile Lys Val Asn Gly Ser Leu Gly Leu Glu Leu Glu Gln Pro 1470 1475 1480	4586
TAC CTG TTC TCT GCT GTG GGC CGT GGG CGC CCC GGC AGC TAC CTG TGG Tyr Leu Phe Ser Ala Val Gly Arg Gly Arg Pro Ala Ser Tyr Leu Trp 1485 1490 1495 1500	4634
GAT CTG GGG GAC GGT GGG TGG CTC GAG GGT CCG GAG GTC ACC CAC GCT Asp Leu Gly Asp Gly Gly Trp Leu Glu Gly Pro Glu Val Thr His Ala 1505 1510 1515	4682
TAC AAC AGC ACA GGT GAC TTC ACC GTT AGG GTG GCC GGC TGG AAT GAG Tyr Asn Ser Thr Gly Asp Phe Thr Val Arg Val Ala Gly Trp Asn Glu 1520 1525 1530	4730
GTG AGC CGC AGC GAG GCC TGG CTC AAT GTG ACC GTG AAG CGG CGC GTG Val Ser Arg Ser Glu Ala Trp Leu Asn Val Thr Val Lys Arg Arg Val 1535 1540 1545	4778

FIG. 1N



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CGG GGG CTC GTC GTC AAT GCA AGC CGC ACG GTG GTG CCC CTG AAT GGG Arg Gly Leu Val Val Asn Ala Ser Arg Thr Val Val Pro Leu Asn Gly 1550 1555 1560	4826
AGC GTG AGC TTC AGC ACG TCG CTG GAG GCC GGC AGT GAT GTG CGC TAT Ser Val Ser Phe Ser Thr Ser Leu Glu Ala Gly Ser Asp Val Arg Tyr 1565 1570 1575 1580	4874
TCC TGG GTG CTC TGT GAC CGC TGC ACG CCC ATC CCT GGG GGT CCT ACC Ser Trp Val Leu Cys Asp Arg Cys Thr Pro Ile Pro Gly Gly Pro Thr 1585 1590 1595	4922
ATC TCT TAC ACC TTC CGC TCC GTG GGC ACC TTC AAT ATC ATC GTC ACG Ile Ser Tyr Thr Phe Arg Ser Val Gly Thr Phe Asn Ile Ile Val Thr 1600 1605 1610	4970
GCT GAG AAC GAG GTG GGC TCC GCC CAG GAC AGC ATC TTC GTC TAT GTC Ala Glu Asn Glu Val Gly Ser Ala Gln Asp Ser Ile Phe Val Tyr Val 1615 1620 1625	5018
CTG CAG CTC ATA GAG GGG CTG CAG GTG GGC GGT GGC CGC TAC TTC Leu Gln Leu Ile Glu Gly Leu Gln Val Val Gly Gly Arg Tyr Phe 1630 1635 1640	5066
CCC ACC AAC CAC ACG GTA CAG CTG CAG GCC GTG GTT AGG GAT GGC ACC Pro Thr Asn His Thr Val Gln Leu Leu Gln Ala Val Val Arg Asp Gly Thr 1645 1650 1655 1660	5114

FIG. 10



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AAC GTC TCC TAC AGC TGG ACT GCC TGG AGG GAC AGG GGC CCG GCC CTG 5162
Asn Val Ser Tyr Ser Trp Thr Ala Trp Arg Asp Arg Gly Pro Ala Leu 1665
1666 1670 1675

GCC GGC AGC GGC AAA GGC TTC TCG CTC ACC GTG CTC GAG GCC GGC ACC 5210
Ala Gly Ser Gly Lys Gly Phe Ser Leu Thr Val Leu Glu Ala Gly Thr 1680
1685 1690

TAC CAT GTG CAG CTG CGG GCC ACC AAC ATG CTG GGC AGC GCC TGG GCC 5258
Tyr His Val Gln Leu Arg Ala Thr Asn Met Leu Gly Ser Ala Trp Ala 1695
1700 1705

GAC TGC ACC ATG GAC TTC GTG GAG CCT GTG GGG TGG CTG ATG GTG GCC 5306
Asp Cys Thr Met Asp Phe Val Glu Pro Val Gly Trp Leu Met Val Ala 1710
1715 1720

GCC TCC CCG AAC CCA GCT GCC GTC AAC ACA AGC GTC ACC CTC AGT GCC 5354
Ala Ser Pro Asn Pro Ala Ala Val Asn Thr Ser Val Thr Leu Ser Ala 1725
1730 1735 1740

GAG CTG GCT GGT GGC AGT GGT GTC GTA TAC ACT TGG TCC TTG GAG GAG 5402
Glu Leu Ala Gly Gly Ser Gly Val Val Tyr Thr Trp Ser Leu Glu Glu 1745
1750 1755

GGG CTG AGC TGG GAG ACC TCC GAG CCA TTT ACC ACC CAT AGC TTC CCC 5450
Gly Leu Ser Trp Glu Thr Ser Glu Pro Phe Thr Thr His Ser Phe Pro 1760
1765 1770

FIG. 1P



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ACA CCC GGC CTG CAC TTG GTC ACC ATG ACG GCA GGG AAC CCG CTG GGC Thr Pro Gly Leu His Leu Val Thr Met Thr Ala Gly Asn Pro Leu Gly 1775 1780 1785	5498
TCA GCC AAC GCC ACC GTG GAA GTG GAT GTG CAG GTG CCT GTG AGT GGC Ser Ala Asn Ala Thr Val Glu Val Asp Val Gln Val Pro Val Ser Gly 1790 1795 1800	5546
CTC AGC ATC AGG GCC AGC GAG CCC GGA GGC AGC TTC GTG GCG GCC GGG Leu Ser Ile Arg Ala Ser Glu Pro Gly Gly Ser Phe Val Ala Ala Gly 1805 1810 1815 1820	5594
TCC TCT GTG CCC TTT TGG GGG CAG CTG GCC ACG GGC ACC AAT GTG AGC Ser Ser Val Pro Phe Trp Gly Gln Leu Ala Thr Gly Thr Asn Val Ser 1825 1830 1835	5642
TGG TGC TGG GCT GTG CCC GGC AGC AGC AAG CGT GGC CCT CAT GTC Trp Cys Trp Ala Val Pro Gly Gly Ser Ser Lys Arg Gly Pro His Val 1840 1845 1850	5690
ACC ATG GTC TTC CCG GAT GCT GGC ACC TTC TCC ATC CCG CTC AAT GCC Thr Met Val Phe Pro Asp Ala Gly Thr Phe Ser Ile Arg Leu Asn Ala 1855 1860 1865	5738
TCC AAC GCA GTC AGC TGG GTC TCA GCC ACG TAC AAC CTC ACG GCG GAG Ser Asn Ala Val Ser Trp Val Ser Ala Thr Tyr Asn Leu Thr Ala Glu 1870 1875 1880	5786

FIG. 1Q



Docket No.: GZ 2061.00
U.S. Serial No.: 09/830,506
Applicant: Oxana Ibragimov-Bestkrovaya, et al.
Title: Compositions and Methods for Treating
Polycystic Kidney Disease

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GAG CCC ATC GTG GGC CTG GTG CTG TGG GCC AGC AGC AAG GTG GTG GCG Glu Pro Ile Val Gly Leu Val Leu Trp Ala Ser Ser Lys Val Val Ala 1885 1890 1895 1900	5834
CCC GGG CAG CTG GTC CAT TTT CAG ATC CTG CTG GCT GCC GGC TCA GCT Pro Gly Gln Leu Val His Phe Gln Ile Leu Leu Ala Ala Gly Ser Ala 1905 1910 1915	5882
GTC ACC TTC CGC CTG CAG GTC GGC GGG GCC AAC CCC GAG GTG CTC CCC Val Thr Phe Arg Leu Gln Val Gly Gly Ala Asn Pro Glu Val Leu Pro 1920 1925 1930	5930
GGG CCC CGT TTC TCC CAC AGC TTC CCC CGC GTC GGA GAC CAC GTG GTG Gly Pro Arg Phe Ser His Ser Phe Pro Arg Val Gly Asp His Val Val 1935 1940 1945	5978
AGC GTG CGG GGC AAA AAC CAC GTG AGC TGG GCC CAG GCG CAG GTG CCG Ser Val Arg Gly Lys Asn His Val Ser Trp Ala Gln Ala Gln Val Arg 1950 1955 1960	6026
ATC GTG GTG GAG GCC CTG AGT GGG CTG CAG GTG CCC AAC TGC TGC Ile Val Val Leu Glu Ala Val Ser Gly Leu Gln Val Pro Asn Cys Cys 1965 1970 1975 1980	6074
GAG CCT GGC ATC GCC ACG GGC ACT GAG AGG AAC TTC ACA GCC CCG GTG Glu Pro Gly Ile Ala Thr Gly Thr Glu Arg Asn Phe Thr Ala Arg Val 1985 1990 1995	6122

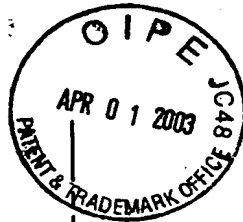
FIG. 1R



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CAG CGC GGC TCT CGG GTC GCC TAC GCC TGG TAC TTC TCG CTG CAG AAG Gln Arg Gly Ser Arg Val Ala Tyr Ala Trp Tyr Phe Ser Leu Gln Lys	2000 2005 2010	6170
GTC CAG GGC GAC TCG CTG GTC ATC CTG TCG GGC CGC GAC GTC ACC TAC Val Gln Gly Asp Ser Leu Val Ile Leu Ser Gly Arg Asp Val Thr Tyr	2015 2020 2025	6218
ACG CCC GTG GCC GCG GGG CTG TTG GAG ATC CAG GTG CGC GCC TTC AAC Thr Pro Val Ala Ala Gly Leu Leu Glu Ile Gln Val Arg Ala Phe Asn	2030 2035 2040	6266
GCC CTG GGC AGT GAG AAC CGC ACG CTG GTG CTG GAG GTT CAG GAC GCC Ala Leu Gly Ser Glu Asn Arg Thr Leu Val Leu Glu Val Gln Asp Ala	2045 2050 2055 2060	6314
GTC CAG TAT GTG GCC CTG CAG AGC GGC CCC TGC TTC ACC AAC CGC TCG Val Gln Tyr Val Ala Leu Gln Ser Gly Pro Cys Phe Thr Asn Arg Ser	2065 2070 2075	6362
GCG CAG TTT GAG GCC ACC AGC CCC AGC CCC CGG CGT GTG GCC TAC Ala Gln Phe Glu Ala Ala Thr Ser Pro Ser Pro Arg Arg Val Ala Tyr	2080 2085 2090	6410
CAC TGG GAC TTT GGG GAT GGG TCG CCA GGG CAG GAC ACA GAT GAG CCC His Trp Asp Phe Gly Asp Gly Ser Pro Gly Gln Asp Thr Asp Glu Pro	2095 2100 2105	6458

FIG. 1S



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AGG GCC GAG CAC TCC TAC CTG AGG CCT GGG GAC TAC CGC GTG CAG GTG Arg Ala Glu His Ser Tyr Leu Arg Pro Gly Asp Tyr Arg Val Gln Val 2110 2115 2120	6506
AAC GCC TCC AAC CTG GTG AGC TTC TTC GTG GCG CAG GCC ACC GTG ACC Asn Ala Ser Asn Leu Val Ser Phe Val Ala Gln Ala Thr Val Thr 2125 2130 2135 2140	6554
GTC CAG GTG CTG GCC TGC CCG GAG CCG GAG GTG GAC GTG GTC CTG CCC Val Gln Val Leu Ala Cys Arg Glu Pro Glu Val Asp Val Val Leu Pro 2145 2150 2155	6602
CTG CAG GTG CTG ATG CCG CGA TCA CAG CGC AAC TAC TTG GAG GCC CAC Leu Gln Val Leu Met Arg Arg Ser Gln Arg Asn Tyr Leu Glu Ala His 2160 2165 2170	6650
GTT GAC CTG CGC GAC TGC GTC ACC TAC CAG ACT GAG TAC CGC TGG GAG Val Asp Leu Arg Asp Cys Val Thr Tyr Gln Thr Glu Tyr Arg Trp Glu 2175 2180 2185	6698
GTG TAT CGC ACC GCC AGC TGC CAG CGG CCG GCG CCA GCG CGT GTG Val Tyr Arg Thr Ala Ser Cys Gln Arg Pro Gly Arg Pro Ala Arg Val 2190 2195 2200	6746
GCC CTG CCC GCG GTG GAC GTG AGC CCG CCT CCG CTG GTG CTG CCG CGG Ala Leu Pro Gly Val Asp Val Ser Arg Pro Arg Leu Val Leu Pro Arg 2205 2210 2215 2220	6794

FIG. 1T



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CTG GCG CTG CCT GTG GGG CAC TAC TGC TTT GTG TTT GTG TCA TTT Leu Ala Leu Pro Val Gly His Tyr Cys Phe Val Phe Val Val Ser Phe 2225 2230 2235	6842
GGG GAC ACG CCA CTG ACA CAG AGC ATC CAG GCC AAT GTG ACG GTG GCC Gly Asp Thr Pro Leu Thr Gln Ser Ile Gln Ala Asn Val Thr Val Ala 2240 2245 2250	6890
CCC GAG CGC CTG GTG CCC ATC ATT GAG GGT GGC TCA TAC CGC GTG TGG Pro Glu Arg Leu Val Pro Ile Ile Glu Gly Gly Ser Tyr Arg Val Trp 2255 2260 2265	6938
TCA GAC ACA CGG GAC CTG GTG CTG GAT GGG AGC GAG TCC TAC GAC CCC Ser Asp Thr Arg Asp Leu Val Leu Asp Gly Ser Glu Ser Tyr Asp Pro 2270 2275 2280	6986
AAC CTG GAG GAC GGC GAC CAG ACG CCG CTC AGT TTC CAC TGG GCC TGT Asn Leu Glu Asp Gly Asp Gln Thr Pro Leu Ser Phe His Trp Ala Cys 2285 2290 2295 2300	7034
GTG GCT TCG ACA CAG AGG GAG GCT GGC GGG TGT GCG CTG AAC TTT GGG Val Ala Ser Thr Gln Arg Glu Ala Gly Gly Cys Ala Leu Asn Phe Gly 2305 2310 2315	7082
CCC GCG GGG AGC ACG GTC ACC ATT CCA CGG GAG CCG CTG GCG GCT Pro Arg Gly Ser Ser Thr Val Thr Ile Pro Arg Glu Arg Leu Ala Ala 2320 2325 2330	7130

FIG. 1U



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GGC GTG GAG TAC ACC TTC AGC CTG ACC GTG TGG AAG GCC GGC CGC AAG Gly Val Glu Tyr Thr Phe Ser Leu Thr Val Trp Lys Ala Gly Arg Lys	2335 2340 2345	7178
GAG GAG GCC ACC AAC CAG ACG GTG CTG ATC CGG AGT GGC CGG GTG CCC Glu Glu Ala Thr Asn Gln Thr Val Leu Ile Arg Ser Gly Arg Val Pro	2350 2355 2360	7226
ATT GTG TCC TTG GAG TGT GTG TCC TGC AAG GCA CAG GCC GTG TAC GAA Ile Val Ser Leu Glu Cys Val Ser Cys Lys Ala Gln Ala Val Tyr Glu	2365 2370 2375 2380	7274
GTG ACG CGC AGC TCC TAC GTG TAC TTG GAG GGC CGC TGC CTC AAT TGC Val Ser Arg Ser Ser Tyr Val Tyr Leu Glu Gly Arg Cys Leu Asn Cys	2385 2390 2395	7322
AGC ACG GGC TCC AAG CGA GGG CGG TGG GCT GCA CGT ACG TTC AGC AAC Ser Ser Gly Ser Lys Arg Gly Arg Trp Ala Ala Arg Thr Phe Ser Asn	2400 2405 2410	7370
AAG ACG CTG GTG CTG GAT GAG ACC ACC ACA TCC ACG GGC AGT GCA GGC Lys Thr Leu Val Leu Asp Glu Thr Thr Ser Thr Gly Ser Ala Gly	2415 2420 2425	7418
ATG CGA CTG GTG CTG CGG CGG GGC GTG CTG CGG GAC GGC GAG GGA TAC Met Arg Leu Val Leu Arg Arg Gly Val Leu Arg Asp Gly Glu Gly Tyr	2430 2435 2440	7466

FIG. 1V



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ACC TTC ACG CTC ACG GTG CTG GGC CGC TCT GGC GAG GAG GGC TGC Thr Phe Thr Leu Thr Val Leu Gly Arg Ser Gly Glu Glu Gly Cys 2445 2450 2455 2460	7514
GCC TCC ATC CGC CTG TCC CCC AAC CGC CCG CTG GGC GGC TCT TGC Ala Ser Ile Arg Leu Ser Pro Asn Arg Pro Pro Leu Gly Gly Ser Cys 2465 2470 2475	7562
CGC CTC TTC CCA CTG GGC GCT GTG CAC GCC CTC ACC ACC AAG GTG CAC Arg Leu Phe Pro Leu Gly Ala Val His Ala Leu Thr Thr Lys Val His 2480 2485 2490	7610
TTC GAA TGC ACG GGC TGG CAT GAC GCG GAG GAT GCT GGC GCC CCG CTG Phe Glu Cys Thr Gly Trp His Asp Ala Glu Asp Ala Gly Ala Pro Leu 2495 2500 2505	7658
GTG TAC GCC CTG CTG CTG CGG CGC TGT CGC CAG GGC CAC TGC GAG GAG Val Tyr Ala Leu Leu Leu Arg Arg Cys Arg Gln Gly His Cys Glu Glu 2510 2515 2520	7706
TTC TGT GTC TAC AAG GGC AGC CTC TCC AGC TAC GGA GCC GTG CTG CCC Phe Cys Val Tyr Lys Gly Ser Leu Ser Ser Tyr Gly Ala Val Leu Pro 2525 2530 2535 2540	7754
CCG GGT TTC AGG CCA CAC TTC GAG GTG GGC CTG GCC GTG GTG CAG Pro Gly Phe Arg Pro His Phe Glu Val Gly Leu Ala Val Val Val Gln 2545 2550 2555	7802

FIG. 1W



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GAC CAG CTG GGA GCC GCT GTG GTC GCC CTC AAC AGG TCT TTG GCC ATC 7850
Asp Gln Leu Gly Ala Ala Val Val Ala Leu Asn Arg Ser Leu Ala Ile
2560 2565 2570

ACC CTC CCA GAG CCC AAC GGC AGC GCA ACG GGG CTC ACA GTC TGG CTG 7898
Thr Leu Pro Glu Pro Asn Gly Ser Ala Thr Gly Leu Thr Val Trp Leu
2575 2580 2585

CAC GGG CTC ACC GCT AGT GTG CTC CCA GGG CTG CTC CGG CAG GCC GAT 7946
His Gly Leu Thr Ala Ser Val Leu Pro Gly Leu Arg Gln Ala Asp
2590 2595 2600

CCC CAG CAC GTC ATC GAG TAC TCG TTG GCC CTG GTC ACC GTG CTG AAC 7994
Pro Gln His Val Ile Glu Tyr Ser Leu Ala Leu Val Thr Val Leu Asn
2605 2610 2615 2620

GAG TAC GAG CGG GCC CTG GAC GTG GCG GCA GAG CCC AAG CAC GAG CGG 8042
Glu Tyr Glu Arg Ala Leu Asp Val Ala Ala Glu Pro Lys His Glu Arg
2625 2630 2635

CAG CAC CGA GCC CAG ATA CGC AAG AAC ATC ACG GAG ACT CTG GTG TCC 8090
Gln His Arg Ala Gln Ile Arg Lys Asn Ile Thr Glu Thr Leu Val Ser
2640 2645 2650

CTG AGG GTC CAC ACT GTG GAT GAC ATC CAG CAG ATC GCT GCT GCG CTG 8138
Leu Arg Val His Thr Val Asp Ile Gln Gln Ile Ala Ala Ala Leu
2655 2660 2665

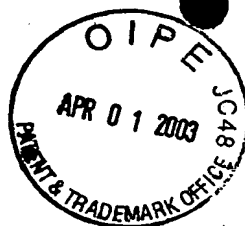
FIG. 1X



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GCC CAG TGC ATG GGG CCC AGC AGG GAG CTC GTA TGC CGC TCG TGC CTG	8186
Ala Gln Cys Met Gly Pro Ser Arg Glu Leu Val Cys Arg Ser Cys Leu	
2670 2675 2680	
AAG CAG ACG CTG CAC AAG CTG GAG GCC ATG ATG CTC ATC CTG CAG GCA	8234
Lys Gln Thr Leu His Lys Leu Glu Ala Met Met Leu Ile Leu Gln Ala	
2685 2690 2695 2700	
GAG ACC ACC GCG GGC ACC GTG ACG CCC ACC GCC ATC GGA GAC AGC ATC	8282
Glu Thr Thr Ala Gly Thr Val Thr Pro Thr Ala Ile Gly Asp Ser Ile	
2705 2710 2715	
CTC AAC ATC ACA GGA GAC CTC ATC CAC CTG GCC AGC TCG GAC GTG CCG	8330
Leu Asn Ile Thr Gly Asp Leu Ile His Leu Ala Ser Ser Asp Val Arg	
2720 2725 2730	
GCA CCA CAG CCC TCA GAG CTG GGA GCC GAG TCA CCA TCT CCG ATG GTG	8378
Ala Pro Gln Pro Ser Glu Leu Gly Ala Glu Ser Pro Ser Arg Met Val	
2735 2740 2745	
GCG TCC CAG GCC TAC AAC CTG ACC TCT GCC CTC ATG CGC ATC CTC ATG	8426
Ala Ser Gln Ala Tyr Asn Leu Thr Ser Ala Leu Met Arg Ile Leu Met	
2750 2755 2760	
GCG TCC CCG GTG CTC AAC GAG GAG CCC CTG ACG CTG GCG GAG GAG	8474
Arg Ser Arg Val Leu Asn Glu Glu Pro Leu Thr Leu Ala Gly Glu Glu	
2765 2770 2775 2780	

FIG. 1Y



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ATC GTG GCC CAG GGC AAG CGC TCG GAC CCG CGG AGC CTG CTG TGC TAT Ile Val Ala Gln Gly Lys Arg Ser Asp Pro Arg Ser Leu Leu Cys Tyr 2785 2790 2795	8522
GGC GGC GCC CCA GGG CCT GGC TGC CAC TTC TCC ATC CCC GAG GCT TTC Gly Gly Ala Pro Gly Pro Gly Cys His Phe Ser Ile Pro Glu Ala Phe 2800 2805 2810	8570
AGC GGC GCC CTG GCC AAC CTC AGT GAC GTG GTG CAG CTC ATC TTT CTG Ser Gly Ala Leu Ala Asn Leu Ser Asp Val Val Gln Leu Ile Phe Leu 2815 2820 2825	8618
GTG GAC TCC AAT CCC TTT CCC TAT ATC AGC AAC TAC ACC GTC Val Asp Ser Asn Pro Phe Pro Phe Gly Tyr Ile Ser Asn Tyr Thr Val 2830 2835 2840	8666
TCC ACC AAG GTG GCC TCG ATG GCA TTC CAG ACA CAG GCC GGC GCC CAG Ser Thr Lys Val Ala Ser Met Ala Phe Gln Thr Gln Ala Gly Ala Gln 2845 2850 2855 2860	8714
ATC CCC ATC GAG CGG CTG GCC TCA GAG CGC GCC ATC ACC GTG AAG GTG Ile Pro Ile Glu Arg Leu Ala Ser Glu Arg Ala Ile Thr Val Lys Val 2865 2870 2875	8762
CCC AAC AAC TCG GAC TGG GCT GCC GGC CAC CGC AGC TCC GCC AAC Pro Asn Asn Ser Asp Trp Ala Ala Arg Gly His Arg Ser Ser Ala Asn 2880 2885 2890	8810

FIG. 1Z



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TCC GCC AAC TCC GTT GTG GTC CAG CCC CAG GCC TCC GTC GGT GCT GTG Ser Ala Asn Ser Val Val Gln Pro Gln Ala Ser Val Gly Ala Val 2895 2900 2905	8858
GTC ACC CTG GAC AGC AAC CCT GCG GCC GGG CTG CAT CTG CAG CTC Val Thr Leu Asp Ser Ser Asn Pro Ala Ala Gly Leu His Leu Gln Leu 2910 2915 2920	8906
AAC TAT ACG CTG CTG GAC GGC CAC TAC CTG TCT GAG GAA CCT GAG CCC Asn Tyr Thr Leu Leu Asp Gly His Tyr Leu Ser Glu Glu Pro Glu Pro 2925 2930 2935 2940	8954
TAC CTG GCA GTC TAC CTA CAC TCG GAG CCC CGG CCC AAT GAG CAC AAC Tyr Leu Ala Val Tyr Leu His Ser Glu Pro Arg Pro Asn Glu His Asn 2945 2950 2955	9002
TGC TCG GCT AGC AGG AGG ATC CGC CCA GAG TCA CTC CAG GGT GCT GAC Cys Ser Ala Ser Arg Arg Ile Arg Pro Glu Ser Leu Gln Gly Ala Asp 2960 2965 2970	9050
CAC CGG CCC TAC ACC TTC TTC ATT TCC CCG GGG AGC AGA GAC CCA GCG His Arg Pro Tyr Thr Phe Phe Ile Ser Pro Gly Ser Arg Asp Pro Ala 2975 2980 2985	9098
GGG AGT TAC CAT CTG AAC CTC TCC AGC CAC TTC CGC TGG TCG GCG CTG Gly Ser Tyr His Leu Asn Leu Ser Ser His Phe Arg Trp Ser Ala Leu 2990 2995 3000	9146

FIG. 1AA



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CAG GTG TCC GTG GGC CTG TAC ACG TCC CTG TGC CAG TAC TTC AGC GAG Gln Val Ser Val Gly Leu Tyr Thr Ser Leu Cys Gln Tyr Phe Ser Glu 3005 3010 3015 3020	9194
GAG GAC ATG GTG TGG CCG ACA GAG GGG CTG CTG CCC CTG GAG GAG ACC Glu Asp Met Val Trp Arg Thr Glu Gly Leu Leu Pro Leu Glu Glu Thr 3025 3030 3035	9242
TCG CCC CGC CAG GCC GTC TGC CTC ACC CGC CAC CTC ACC GCC TTC GGC Ser Pro Arg Gln Ala Val Cys Leu Thr Arg His Leu Thr Ala Phe Gly 3040 3045 3050	9290
GCC AGC CTC TTC GTG CCC CCA AGC CAT GTC CGC TTT GTG TTT CCT GAG Ala Ser Leu Phe Val Pro Pro Ser His Val Arg Phe Val Phe Pro Glu 3055 3060 3065	9338
CCG ACA GCG GAT GTA AAC TAC ATC GTC ATG CTG ACA TGT GCT GTG TGC Pro Thr Ala Asp Val Asn Tyr Ile Val Met Leu Thr Cys Ala Val Cys 3070 3075 3080	9386
CTG GTG ACC TAC ATG GTC ATG GCC GCC ATC CTG CAC AAG CTG GAC CAG Leu Val Thr Tyr Met Val Met Ala Ala Ile Leu His Lys Leu Asp Gln 3085 3090 3095 3100	9434
TTG GAT GCC AGC CCG GCG GCC ATC CCT TTC TGT GGG CAG CCG GGC Leu Asp Ala Ser Arg Gly Arg Ala Ile Pro Phe Cys Gly Gln Arg Gly 3105 3110 3115	9482

FIG. 1AB



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CGC TTC AAG TAC GAG ATC CTC GTC AAG ACA GGC TGG GGC CGG GGC TCA Arg Phe Lys Tyr Glu Ile Leu Val Lys Thr Gly Trp Gly Arg Gly Ser 3120 3125 3130	9530
GGT ACC ACG GCC CAC GTG GGC ATC ATG CTG TAT GGG GTG GAC AGC CGG Gly Thr Thr Ala His Val Gly Ile Met Leu Tyr Gly Val Asp Ser Arg 3135 3140 3145	9578
AGC GGC CAC CGG CAC CTG GAC GGC GAC AGA GCC TTC CAC CGC AAC AGC Ser Gly His Arg His Leu Asp Gly Asp Arg Ala Phe His Arg Asn Ser 3150 3155 3160	9626
CTG GAC ATC TTC CGG ATC GCC ACC CCG CAC AGC CTG GGT AGC GTG TGG Leu Asp Ile Phe Arg Ile Ala Thr Pro His Ser Leu Gly Ser Val Trp 3165 3170 3175 3180	9674
AAG ATC CGA GTG TGG CAC GAC AAC AAA GGG CTC AGC CCT GCC TGG TTC Lys Ile Arg Val Trp His Asp Asn Lys Gly Leu Ser Pro Ala Trp Phe 3185 3190 3195	9722
CTG CAG CAC GTC ATC GTC AGG GAC CTG CAG ACG GCA CGC AGC GCC TTC Leu Gln His Val Ile Val Arg Asp Leu Gln Thr Ala Arg Ser Ala Phe 3200 3205 3210	9770
TTC CTG GTC AAT GAC TGG CTT TCG GTG GAG ACG GAG GCC AAC GGG GGC Phe Leu Val Asn Asp Trp Leu Ser Val Glu Thr Glu Ala Asn Gly Gly 3215 3220 3225	9818

FIG. 1AC



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CTG GTG GAG AAG GAG GTG CTG GCC GCG AGC GAC GCA GCC CTT TTG CGC Leu Val Glu Lys Glu Val Leu Ala Ala Ser Asp Ala Ala Leu Leu Arg 3230 3235 3240	9866
TTC CCG CGC CTG CTG GTG GCT GAG CTG CAG CGT GGC TTC TTT GAC AAG Phe Arg Arg Leu Leu Val Ala Glu Leu Gln Arg Gly Phe Phe Asp Lys 3245 3250 3255 3260	9914
CAC ATC TGG CTC TCC ATA TGG GAC CCG CCT CGT AGC CGT TTC ACT His Ile Trp Leu Ser Ile Trp Asp Arg Pro Pro Arg Ser Arg Phe Thr 3265 3270 3275	9962
CGC ATC CAG AGG GCC ACC TGC TGC GTT CTC CTC ATC TGC CTC TTC CTG Arg Ile Gln Arg Ala Thr Cys Cys Val Leu Leu Ile Cys Leu Phe Leu 3280 3285 3290	10010
GGC GCC AAC GCC GTG TGG TAC GGG GCT GTT GGC GAC TCT GCC TAC AGC Gly Ala Asn Ala Val Trp Tyr Gly Ala Val Gly Asp Ser Ala Tyr Ser 3295 3300 3305	10058
ACG GGG CAT GTG TCC AGG CTG AGC CCG CTG AGC GTC GAC ACA GTC GCT Thr Gly His Val Ser Arg Leu Ser Pro Leu Ser Val Asp Thr Val Ala 3310 3315 3320	10106
GTT GGC CTG GTG TCC AGC GTG GTT GTC TAT CCC GTC TAC CTG GCC ATC Val Gly Leu Val Ser Ser Val Val Val Tyr Pro Val Tyr Leu Ala Ile 3325 3330 3335 3340	10154

FIG. 1AD



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CIT TTT CTC TTC CGG ATG TCC CGG AGC AAG GTG GCT GGG AGC CCG AGC 10202
Leu Phe Leu Phe Arg Met Ser Arg Ser Lys Val Ala Gly Ser Pro Ser 3355
3345 3350

CCC ACA CCT GCC GGG CAG CAG GTG CTG GAC ATC GAC AGC TGC CTG GAC 10250
Pro Thr Pro Ala Gly Gln Gln Val Leu Asp Ile Asp Ser Cys Leu Asp 3370
3360 3365

TCG TCC GTG CTG GAC AGC TCC TTC CTC ACG TTC TCA GGC CTC CAC GCT 10298
Ser Ser Val Leu Asp Ser Phe Leu Thr Phe Ser Gly Leu His Ala 3385
3375 3380

GAG GCC TTT GTT GGA CAG ATG AAG AGT GAC TTG TTT CTG GAT GAT TCT 10346
Glu Ala Phe Val Gly Gln Met Lys Ser Asp Leu Phe Leu Asp Asp Ser 3400
3390 3395

AAG AGT CTC GTG TGC TGG CCC TCC GGC GAG GGA ACG CTC AGT TGG CCG 10394
Lys Ser Leu Val Cys Trp Pro Ser Gly Glu Gly Thr Leu Ser Trp Pro 3420
3405 3410 3415

GAC CTG CTC AGT GAC CCG TCC ATT GTG GGT AGC AAT CTG CGG CAG CTG 10442
Asp Leu Leu Ser Asp Pro Ser Ile Val Gly Ser Asn Leu Arg Gln Leu 3435
3425 3430

GCA CGG GGC CAG GCG GGC CAT GGG CTG GGC CCA GAG GAG GAC GGC TTC 10490
Ala Arg Gly Gln Ala Gly His Gly Leu Gly Pro Glu Glu Asp Gly Phe 3450
3440 3445

FIG. 1AE



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TCC CTG GCC AGC CCC TAC TCG CCT GCC AAA TCC TTC TCA GCA TCA GAT Ser Leu Ala Ser Pro Tyr Ser Pro Ala Lys Ser Phe Ser Ala Ser Asp 3455 3460 3465	10538
GAA GAC CTG ATC CAG CAG GTC CTT GCC GAG GGG GTC AGC AGC CCA GCC Glu Asp Leu Ile Gln Gln Val Leu Ala Glu Gly Val Ser Ser Pro Ala 3470 3475 3480	10586
CCT ACC CAA GAC ACC CAC ATG GAA ACG GAC CTG CTC AGC AGC CTG TCC Pro Thr Gln Asp Thr His Met Glu Thr Asp Leu Leu Ser Ser Leu Ser 3485 3490 3495 3500	10634
AGC ACT CCT GGG GAG AAG ACA GAG ACG CTG GCG CTG CAG AGG CTG GGG Ser Thr Pro Gly Glu Lys Thr Glu Thr Leu Ala Leu Gln Arg Leu Gly 3505 3510 3515	10682
GAG CTG GGG CCA CCC AGC CCA GGC CTG AAC TGG GAA CAG CCC CAG GCA Glu Leu Gly Pro Pro Ser Pro Gly Leu Asn Trp Glu Gln Pro Gln Ala 3520 3525 3530	10730
GGC AGG CTG TCC AGG ACA GGA CTG GTG GAG GGT CTG CGG AAG CGC CTG Ala Arg Leu Ser Arg Thr Gly Leu Val Glu Gly Leu Arg Lys Arg Leu 3535 3540 3545	10778
CTG CCG GCC TGG TGT GCC TCC CTG GCC CAC GGG CTC AGC CTG CTC CTG Leu Pro Ala Trp Cys Ala Ser Leu Ala His Gly Leu Ser Leu Leu Leu 3550 3555 3560	10826

FIG. 1AF



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GTG GCT GTG GCT GTG GCT GTC TCA GGG TGG GTG GGT GCG AGC TTC CCC 10874
Val Ala Val Ala Val Ala Val Ser Gly Trp Val Gly Ala Ser Phe Pro 3580
3565 3570 3575

CCG GGC GTG AGT GTT GCG TGG CTC CTG TCC AGC AGC GGC AGC TTC CTG 10922
Pro Gly Val Ser Val Ala Trp Leu Ser Ser Ala Ser Phe Leu 3595
3585 3590

GCC TCA TTC CTC GGC TGG GAG CCA CTG AAG GTC TTG CTG GAA GCC CTG 10970
Ala Ser Phe Leu Gly Trp Glu Pro Leu Lys Val Leu Leu Glu Ala Leu 3610
3600 3605

TAC TTC TCA CTG GTG GCC AAG CCG CTG CAC CCG GAT GAA GAT GAC ACC 11018
Tyr Phe Ser Leu Val Ala Lys Arg Leu His Pro Asp Glu Asp Thr 3625
3615 3620

CTG GTA GAG AGC CCG GCT GTG ACG CCT GTG AGC GCA CGT GTG CCC CGC 11066
Leu Val Glu Ser Pro Ala Val Thr Pro Val Ser Ala Arg Val Pro Arg 3640
3630 3635

CTA CCG CCA CCC CAC GGC TTT GCA CTC TTC CTG GCC AAG GAA GAA GCC 11114
Val Arg Pro Pro His Gly Phe Ala Leu Phe Leu Ala Lys Glu Glu Ala 3660
3645 3650 3655

CCG AAG GTC AAG AGG CTA CAT GGC ATG CTG CCG AGC CTC CTG GTG TAC 11162
Arg Lys Val Lys Arg Leu His Gly Met Leu Arg Ser Leu Leu Val Tyr 3675
3665 3670

FIG. 1AG



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ATG CTT TTT CTG CTG GTG ACC CTG CTG GCC AGC TAT GGG GAT GCC TCA 11210
Met Leu Phe Leu Leu Val Thr Leu Leu Ala Ser Tyr Gly Asp Ala Ser 3680 3685 3690

TGC CAT GGG CAC GCC TAC CGT CTG CAA AGC GCC ATC AAG CAG GAG CTG 11258
Cys His Gly His Ala Tyr Arg Leu Gln Ser Ala Ile Lys Gln Glu Leu 3695 3700 3705

CAC AGC CGG GCC TTC CTG GCC ATC ACG CGG TCT GAG GAG CTC TGG CCA 11306
His Ser Arg Ala Phe Leu Ala Ile Thr Arg Ser Glu Glu Leu Trp Pro 3710 3715 3720

TGG ATG GCC CAC GTG CTG CTG CCC TAC GTC CAC GGG AAC CAG TCC AGC 11354
Trp Met Ala His Val Leu Leu Pro Tyr Val His Gly Asn Gln Ser Ser 3725 3730 3735 3740

CCA GAG CTG GGG CCC CCA CGG CTG CGG CAG GTG CGG CTG CAG GAA GCA 11402
Pro Glu Leu Gly Pro Pro Arg Leu Arg Gln Val Arg Leu Gln Glu Ala 3745 3750 3755

CTC TAC CCA GAC CCT CCC GGC CCC AGG GTC CAC ACG TGC TCG GCC GCA 11450
Leu Tyr Pro Asp Pro Pro Gly Pro Arg Val His Thr Cys Ser Ala Ala 3760 3765 3770

GGA GGC TTC AGC ACC AGC GAT TAC GAC GTT GGC TGG GAG AGT CCT CAC 11498
Gly Gly Phe Ser Thr Ser Asp Tyr Asp Val Gly Trp Glu Ser Pro His 3775 3780 3785

FIG. 1AH



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AAT GGC TCG GGG ACG TGG GCC TAT TCA GCG CCG GAT CTG CTG GGG GCA 11546
Asn Gly Ser Gly Thr Trp Ala Tyr Ser Ala Pro Asp Leu Leu Gly Ala
3790 3795 3800

TGG TCC TGG GGC TCC TGT GCC GTG TAT GAC AGC GGC GGC TAC GTG CAG 11594
Trp Ser Trp Gly Ser Cys Ala Val Tyr Asp Ser Gly Gly Tyr Val Gln
3805 3810 3815 3820

GAG CTG GGC CTG AGC CTG GAG GAG AGC CGC GAC CGG CTG CGC TTC CTG 11642
Glu Leu Gly Leu Ser 3825 Ser Arg Asp Arg Leu Arg Phe Leu
3830 3835

CAG CTG CAC AAC TGG CTG GAC AAC AGG AGC CGC GCT GTG TTC CTG GAG 11690
Gln Leu His Asn Trp Leu Asp Asn Arg Ser Arg Ala Val Phe Leu Glu
3840 3845 3850

CTC ACG CGC TAC AGC CCG GCC GTG GGG CTG CAC GCC GCC GTG ACG CTG 11738
Leu Thr Arg Tyr Ser Pro Ala Val Gly Leu His Ala Ala Val Thr Leu
3855 3860 3865

CGC CTC GAG TTC CCG GCG GCC GCG GCC CTG GCC GCC CTC AGC GTC 11786
Arg Leu Glu Phe Pro Ala Ala Gly Arg Ala Leu Ala Ala Leu Ser Val
3870 3875 3880

CGC CCC TTT GCG CTG CCG CGC CTC AGC GCG GGC CTC TCG CTG CCT CTG 11834
Arg Pro Phe Ala Leu Arg Arg Leu Ser Ala Gly Leu Ser Leu Pro Leu
3885 3890 3895 3900

FIG. 1AI



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CTC ACC TCG GTG TGC CTG CTG TTC GCC GTG CAC TTC GCC GTG GCC 11882
Leu Thr Ser Val Cys Leu Leu Phe Ala Val His Phe Ala Val Ala 3905
3910 3915

GAG GCC CGT ACT TGG CAC AGG GAA GGC CGC TGG CGC GTG CTG CGG CTC 11930
Glu Ala Arg Thr Trp His Arg Glu Gly Arg Val Arg Val Leu Arg Leu 3920
3925 3930

GGA GCC TGG GCG CGG TGG CTG CTG GTG GCG CTG ACG GCG GCC ACG GCA 11978
Gly Ala Trp Ala Arg Trp Leu Leu Val Ala Leu Thr Ala Ala Thr Ala 3935
3940 3945

CTG GTA CGC CTC GCC CAG CTG GGT GCC GCT GAC CGC CAG TGG ACC CGT 12026
Leu Val Arg Leu Ala Gln Leu Gly Ala Ala Asp Arg Gln Trp Thr Arg 3950
3955 3960

TTC GTG CGC GGC CGC CGC TTC ACT AGC TTC GAC CAG GTG GCC 12074
Phe Val Arg Gly Arg Pro Arg Arg Phe Thr Ser Phe Asp Gln Val Ala 3965
3970 3975 3980

GAG CTG AGC TCC GCA GCC CGT GGC CTG GCG GCC TCG CTG CTC TTC CTG 12122
Gln Leu Ser Ser Ala Ala Arg Gly Leu Ala Ala Ser Leu Leu Phe Leu 3985
3990 3995

CTT TTG GTC AAG GCT GCC CAG CAG CTA CGC TTC GTG CGC CAG TGG TCC 12170
Leu Leu Val Lys Ala Ala Gln Gln Leu Arg Phe Val Arg Gln Trp Ser 4000
4005 4010

FIG. 1AJ



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GTC TTT GGC AAG ACA TTA TGC CGA GCT CTG CCA GAG CTC CTG GGG GTC 12218
Val Phe Gly Lys Thr Leu Cys Arg Ala Leu Pro Glu Leu Leu Gly Val
4015 4020 4025

ACC TTG GGC CTG GTG GTG CTC GGG GTA GCC TAC GCC CAG CTG GCC ATC 12266
Thr Leu Gly Leu Val Val Leu Gly Val Ala Tyr Ala Gln Leu Ala Ile
4030 4035 4040

CTG CTC GTG TCT TCC TGT GTG GAC TCC CTC TGG AGC GTG GCC CAG GCC 12314
Leu Leu Val Ser Ser Cys Val Asp Ser Leu Trp Ser Val Ala Gln Ala
4045 4050 4055 4060

CTG TTG GTG CTG TGC CCT GGG ACT GGG CTC TCT ACC CTG TGT CCT GCC 12362
Leu Leu Val Leu Cys Pro Gly Thr Gly Leu Ser Thr Leu Cys Pro Ala
4065 4070 4075

GAG TCC TGG CAC CTG TCA CCC CTG CTG TGT GTG GGG CTC TGG GCA CTG 12410
Glu Ser Trp Trp His Leu Ser Pro Leu Leu Cys Val Gly Leu Trp Ala Leu
4080 4085 4090

CGG CTG TGG GGC GCC CTA CGG CTG GGG GCT GTT ATT CTC CGC TGG CGC 12458
Arg Leu Trp Gly Ala Leu Arg Leu Gly Ala Val Ile Leu Arg Trp Arg
4095 4100 4105

TAC CAC GCC TTG CGT GGA GAG CTG TAC CGG CCG GCC TGG GAG CCC CAG 12506
Tyr His Ala Leu Arg Gly Glu Leu Tyr Arg Pro Ala Trp Glu Pro Gln
4110 4115 4120

FIG. 1AK



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GAC TAC GAG ATG GTG GAG TTG TTC CTG CGC AGG CTG CGC CTC TGG ATG Asp Tyr Glu Met Val Glu Leu Phe Leu Arg Arg Leu Arg Leu Trp Met 4125 4130 4135 4140	12554
GGC CTC AGC AAG GTC AAG GAG TTC CGC CAC AAA GTC CGC TTT GAA GGG Gly Leu Ser Lys Val Lys Glu Phe Arg His Lys Val Arg Phe Glu Gly 4145 4150 4155	12602
ATG GAG CCG CTG CCC TCT CGC TCC AGG GGC TCC AAG GTA TCC CCG Met Glu Pro Leu Pro Ser Arg Ser Ser Arg Gly Ser Lys Val Ser Pro 4160 4165 4170	12650
GAT GTG CCC CCA CCC AGC GCT GGC TCC GAT GCC TCG CAC CCC TCC ACC Asp Val Pro Pro Pro Ser Ala Gly Ser Asp Ala Ser His Pro Ser Thr 4175 4180 4185	12698
TCC TCC AGC CAG CTG GAT GGG CTG AGC GTG AGC CTG GGC CGG CTG GGG Ser Ser Ser Gln Leu Asp 4190 4195 4200	12746
ACA AGG TGT GAG CCT GAG CCC TCC CGC CTC CAA GCC GTG TTC GAG GCC Thr Arg Cys Glu Pro Glu Pro Ser Arg Leu Gln Ala Val Phe Glu Ala 4205 4210 4215 4220	12794
CTG CTC ACC CAG TTT GAC CGA CTC AAC CAG GCC ACA GAG GAC GTC TAC Leu Leu Thr Gln Phe Asp Arg Leu Asn Gln Ala Thr Glu Asp Val Tyr 4225 4230 4235	12842

FIG. 1AL



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CAG CTG GAG CAG CAG CTG CAC AGC CTG CAA GGC CGC AGG AGC AGC CGG 12890
Gln Leu Glu Gln Gln His Ser Leu Gln Gly Arg Arg Ser Ser Arg 4240 4245
4255
GGC CCC GGC GGA TCT TCC CGT GGC CCA TCC CCG GGC CTG CCG CCA GCA 12938
Ala Pro Ala Gly Ser Ser Arg Gly Pro Ser Pro Gly Leu Arg Pro Ala 4260 4265
4270
CTG CCC AGC CGC CTT GCC CCG AGT CGG GGT GTG GAC CTG GCC ACT 12986
Leu Pro Ser Arg Leu Ala Arg Ala Ser Arg Gly Val Asp Leu Ala Thr 4275 4280
4285
GGC CCC AGC AGG ACA CCC CTT CCG GCC AAG AAC AAG GTC CAC CCC AGC 13034
Gly Pro Ser Arg Thr Pro Leu Arg Ala Lys Asn Lys Val His Pro Ser 4290 4295 4300
4385
AGC ACT TAGTCCTCCT TCCTGCGGG GGTGGGCCGT GGAGTCGGAG TGGACACCGC 13090
Ser Thr
TCAGTATTAC TTTCTGCCG TGTCAGGCC GAGGCCCAGG CAGAAATGGCT GCACGTAGGT 13150
TCCCCAGAGA GCAGGCAGGG GCATCTGTCT GTCTGTGGGC TTCAGCACTT TAAAGAGGCT 13210
GTGTGGCCAA CCAGGACCCA GGGTCCCCCTC CCCAGCTCCC TTGGGAAGGA CACAGCAGTA 13270
TTGACCGGT TCTAGCCTCT GAGATGCTAA TTTATTCCC CGAGTCCTCA GGTACAGCGG 13330

FIG. 1AM



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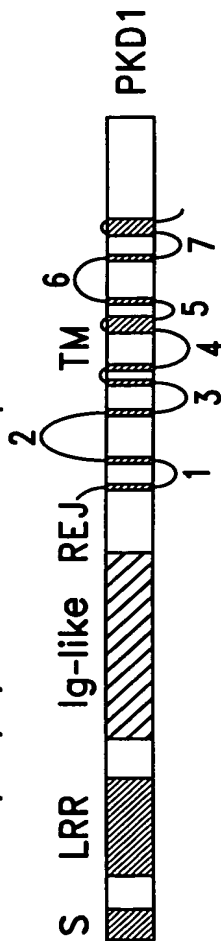
GCTGTGCCCG GCCCCACCCC CTGGGCAGAT GTCCCCCACT GCTAAGGCTG CTGGCTTCAG 13390
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CGTACTCCCT GCACCGTCTC ACGTGTGTGC TCGTGTCACT AATTATATG GTGTTAAAT 13510
GTGTATATTT TTGTATGTCA CTATTTTCAC TAGGGCTGAG GGGCCTGCC CCAGAGCTGG 13570
CCTCCCCAA CACCTGCTGC GCTTGGTAGG TGTGGTGCG TTAIGGCAGC CCGGCTGCTG 13630
CTTGGATCG AGCTTGGCCT TGGGCCGGTG CTGGGGGCAC AGCTGTCTGC CAGGCACTCT 13690
CATCACCCCA GAGGCTTGT CATCCTCCCT TGCCCCAGGC CAGGTAGCAA GAGAGCAGCG 13750
CCCAGGCCCTG CTGGCATCAG GTCTGGGCAA GTAGCAGGAC TAGGCATGTC AGAGGACCCC 13810
AGGGTGTTA GAGGAAAGA CTCCTCCTGG GGGCTGGCTC CCAGGGTGA GGAAGGTGAC 13870
TGTGTGTGTG TGTGTGTGCG CGCGGCACG CGGAGTGTG CTGTATGGCC CAGGCAGCCT 13930
CAAGGCCCTC GGAGCTGGCT GTGCCCTGCTT CTGTGTACCA CTTCTGTGG CATGGCCGCT 13990
TCTAGAGCCT CGACACCCCC CCAACCCCGG CACCAAGCAG ACAAAGTCAA TAAAGAGCT 14050
GTCTGACTGC 14060

FIG. 1AN



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Polyclonal antibodies to domain specific polycystin fusion proteins



GST		FP-L1	Res. 2621-2710
GST		FP-L2	Res. 2734-3094
GST		FP-L3	Res. 3116-3300
GST		FP-L4	Res. 3364-3578
GST		FP-L5	Res. 3623-3688
GST		FP-L6	Res. 3710-3914
GST		FP-L7	Res. 3931-4046
MBP		MAL-REJ	Res. 2166-2599
MBP		MAL-BD3	Res. 4097-4302
GST		FP-46-2	Res. 4148-4219
GST		FP-46-1c	Res. 4220-4302
GST		FP-LRR	Res. 27-360

FIG. 2



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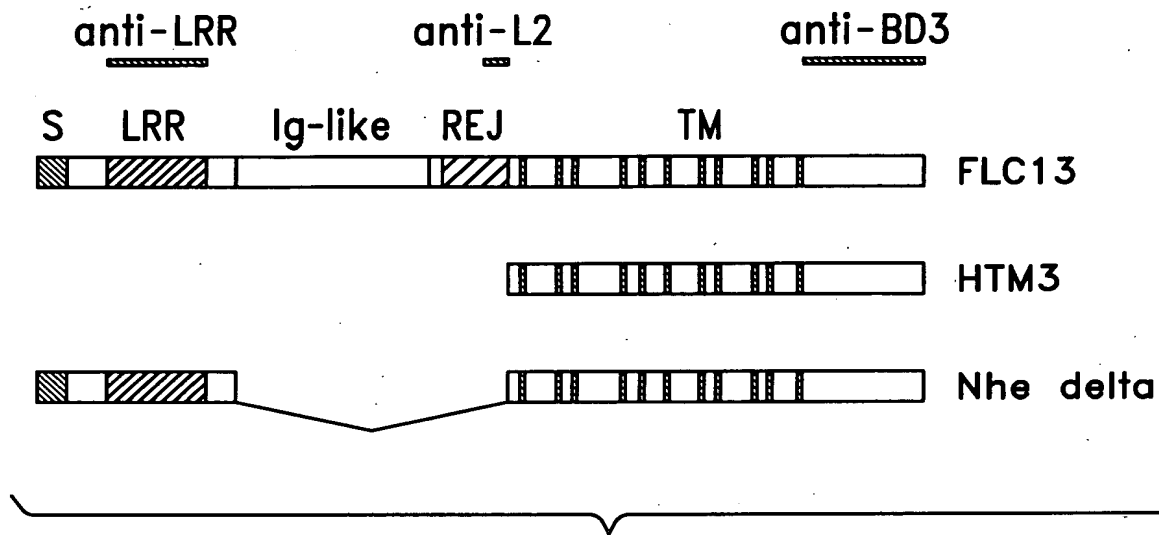
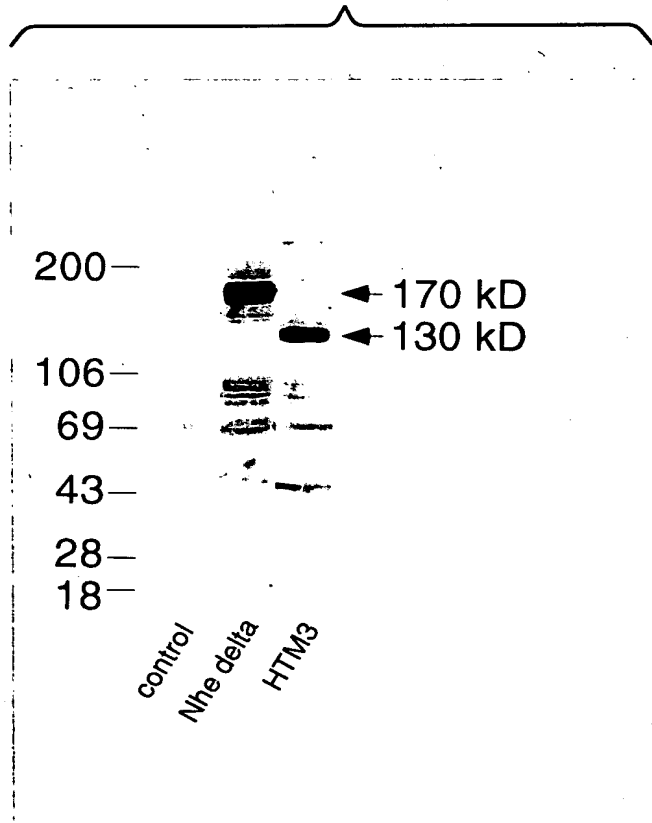


FIG. 3A

FIG. 3B





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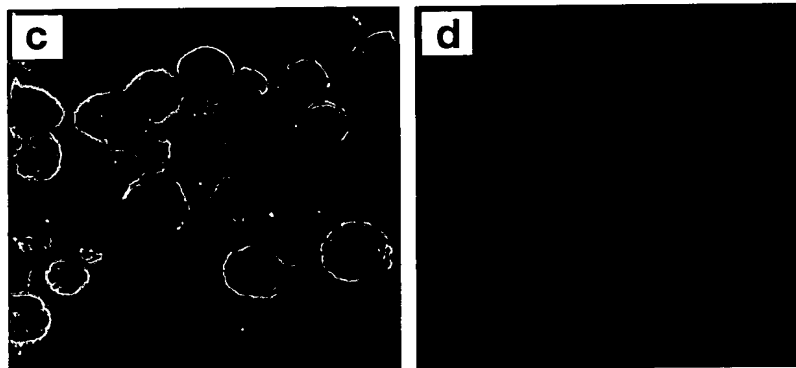
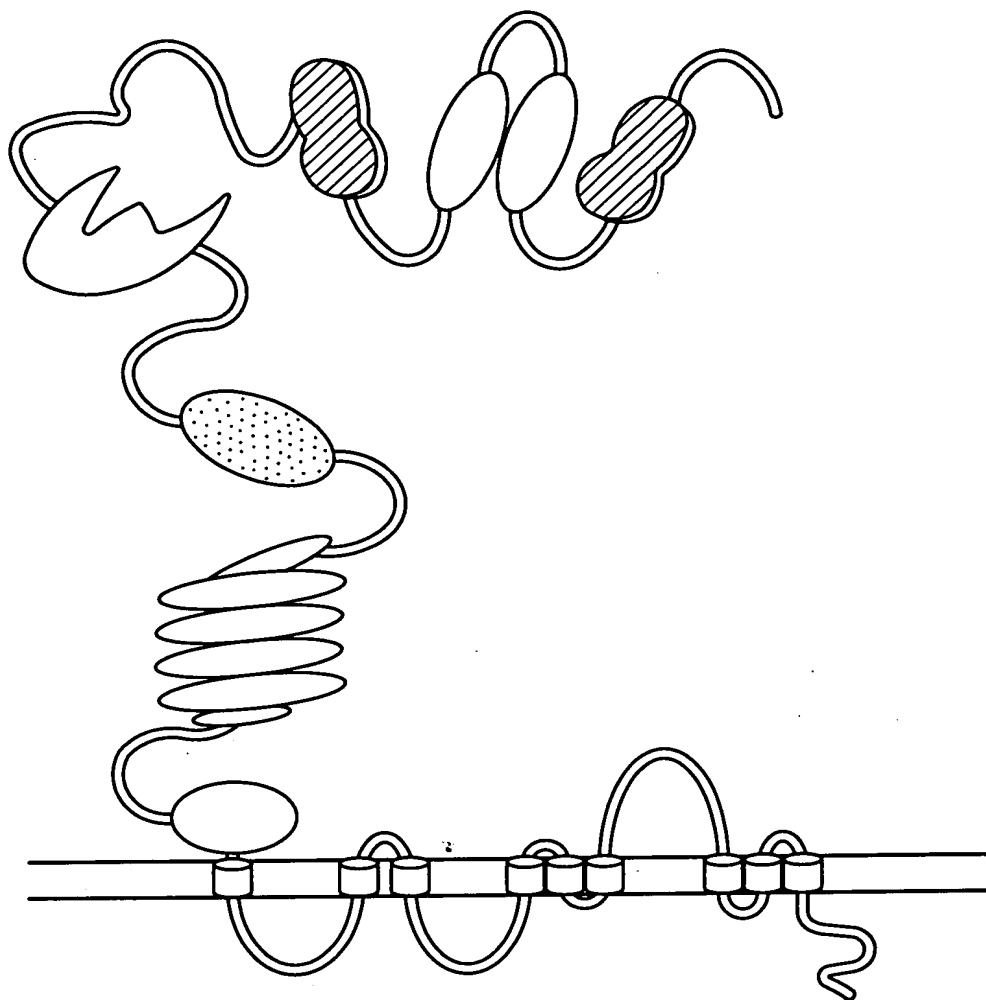


FIG. 3C FIG. 3D



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-  N - amino flanking region
-  C - carboxy flanking region
-  LRR - leucine-rich repeats
-  Ig-like domains
-  C-type lectin domain
-  REJ - domain with homology to the receptor for egg jelly
-  LDL-like domain
-  TM - putative transmembrane region

FIG. 4



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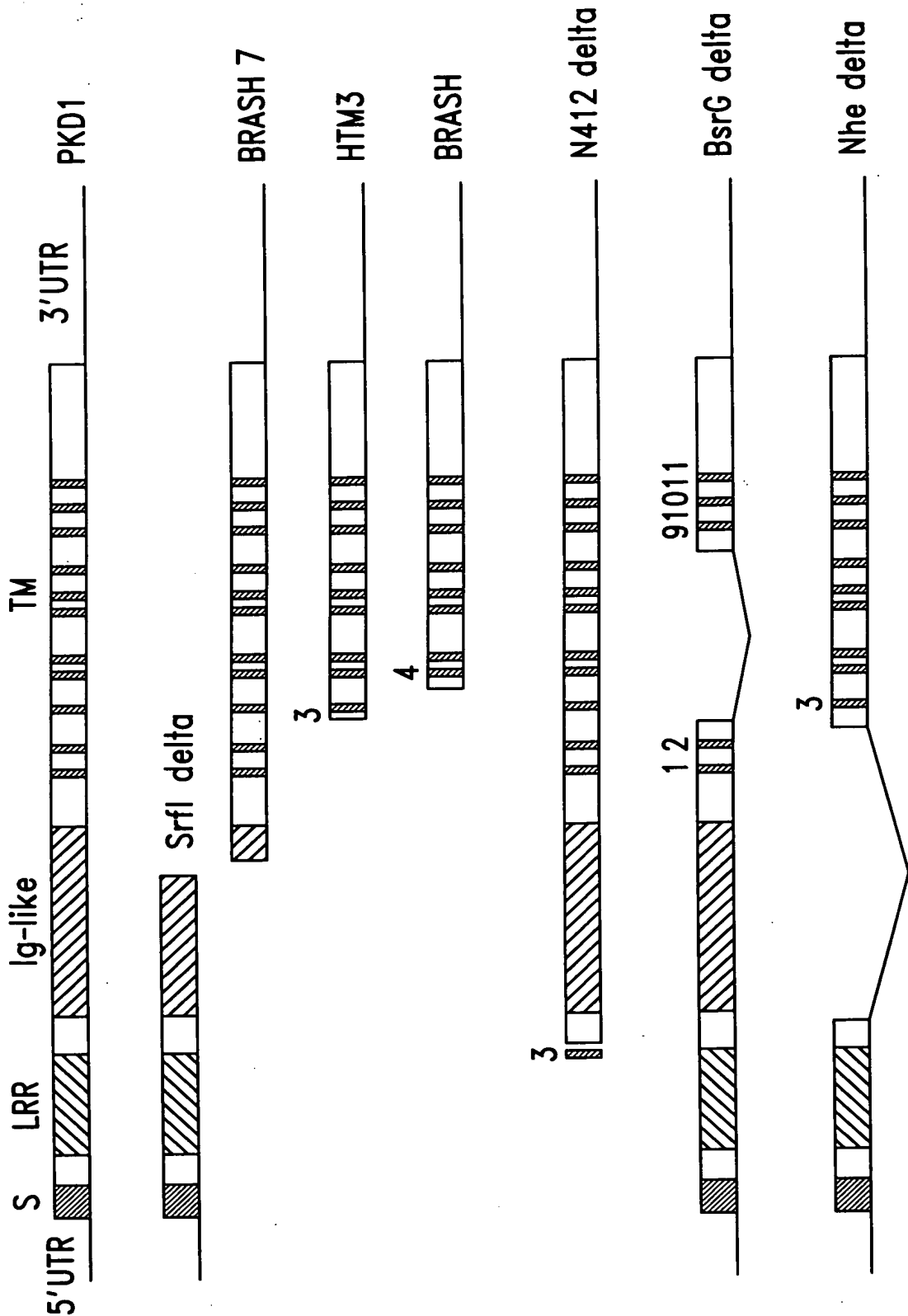


FIG. 5



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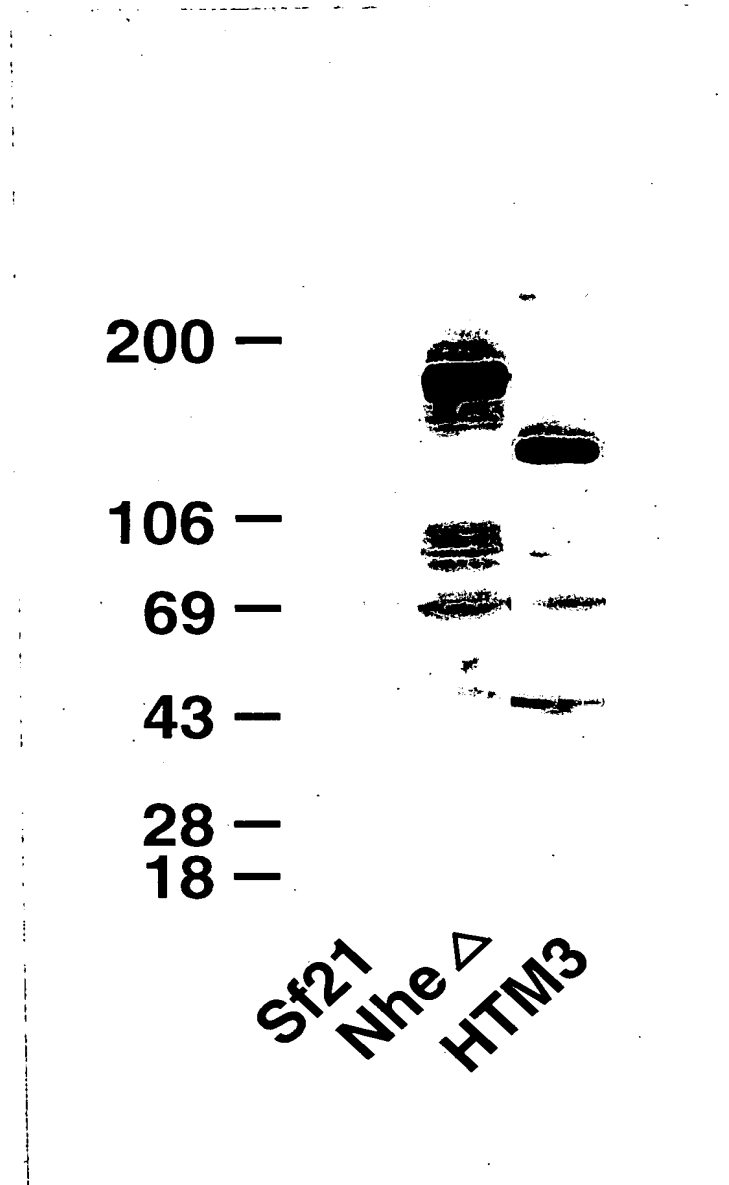


FIG. 6



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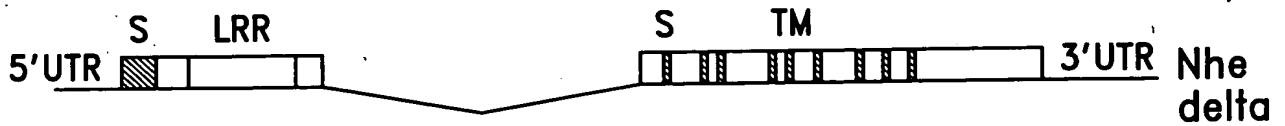


FIG. 7



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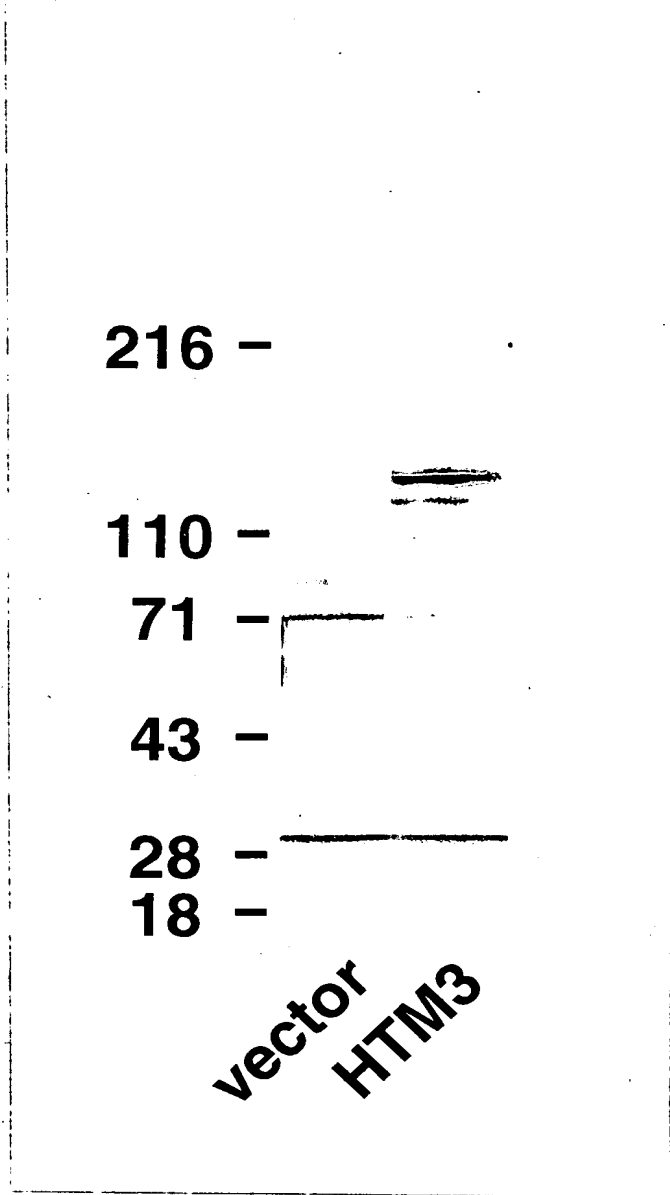
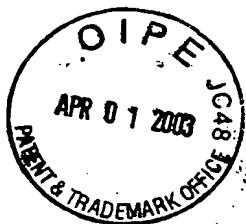


FIG. 8



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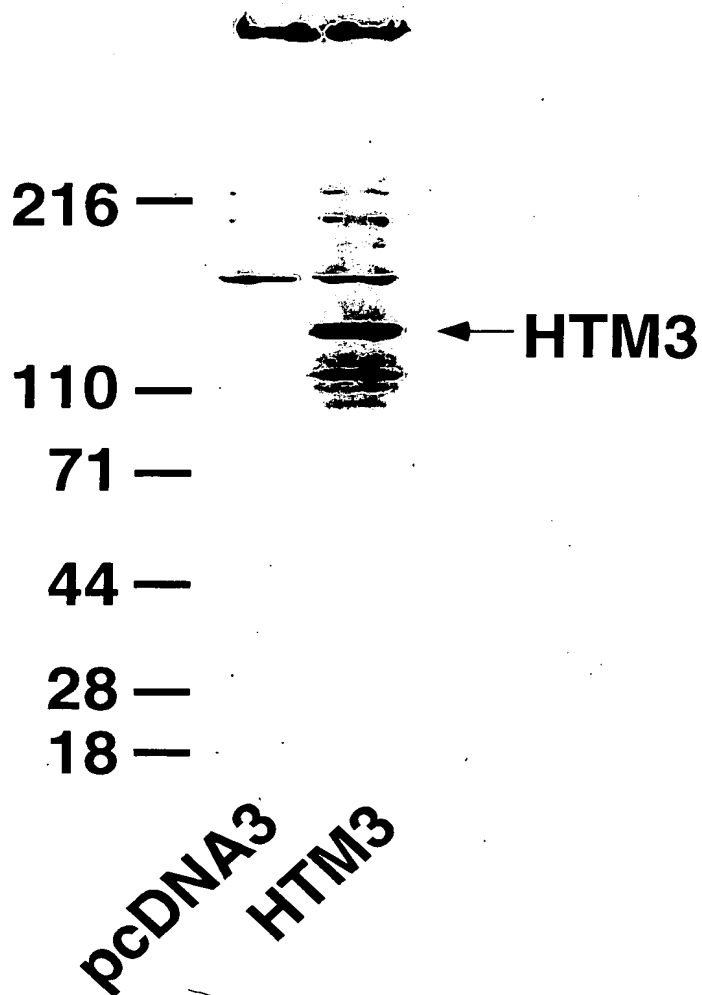


FIG. 9



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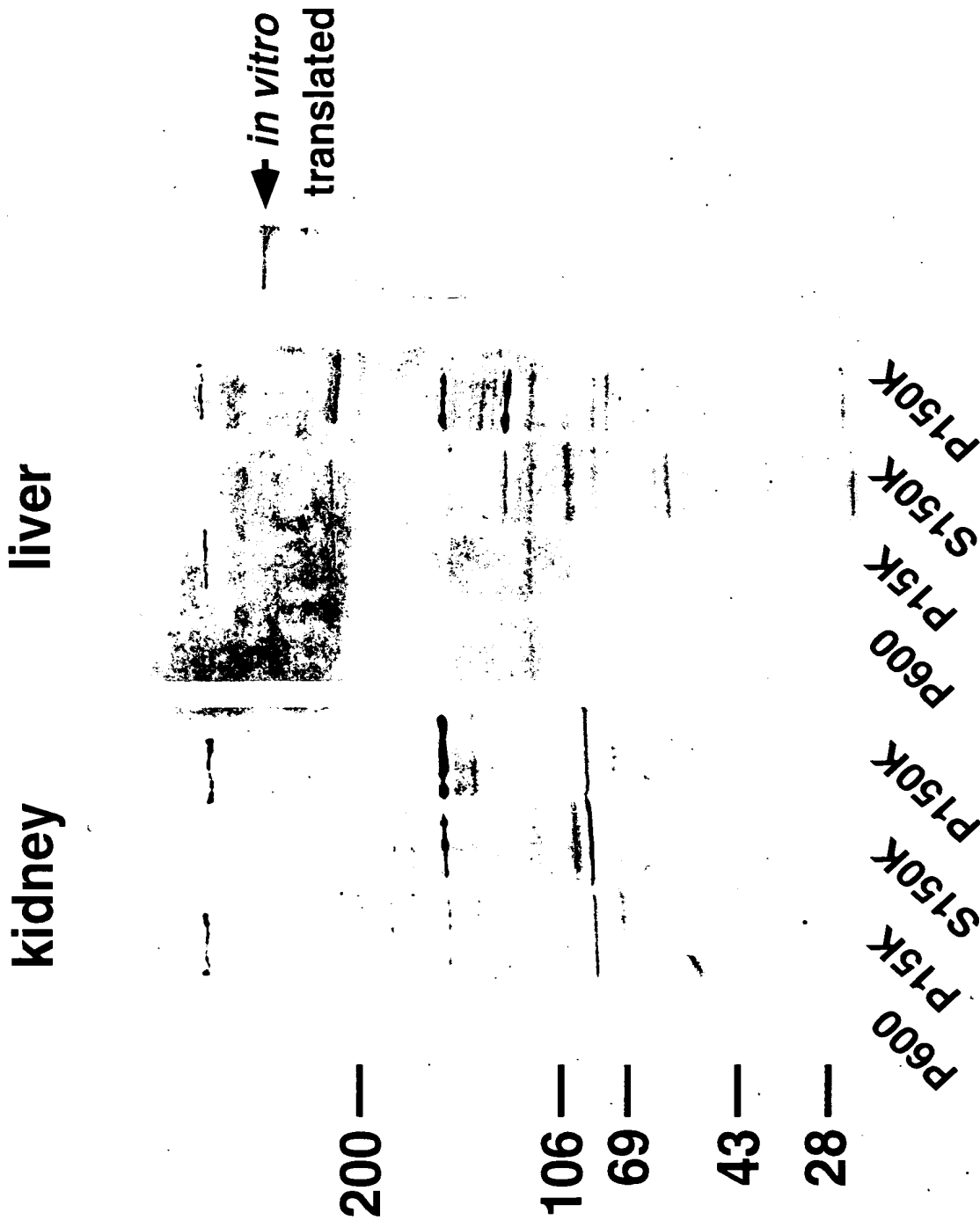


FIG. 10A



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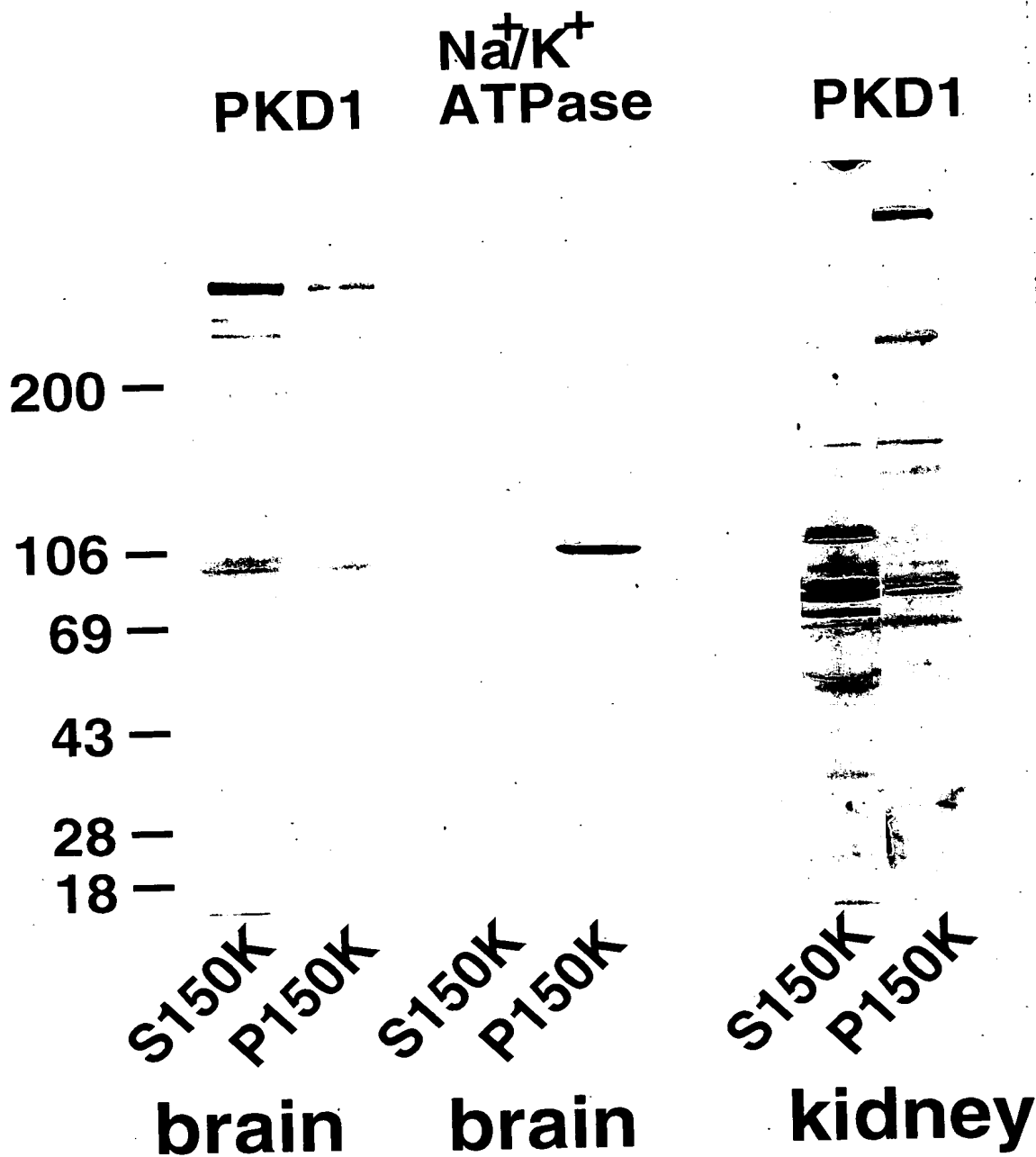


FIG. 10B



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brain

kidney

200-

111-

73-

47-

28-

P150K
S150K
P150K KCl
S150K KCl
P150K
S150K
P150K KCl
S150K KCl

FIG. 10C



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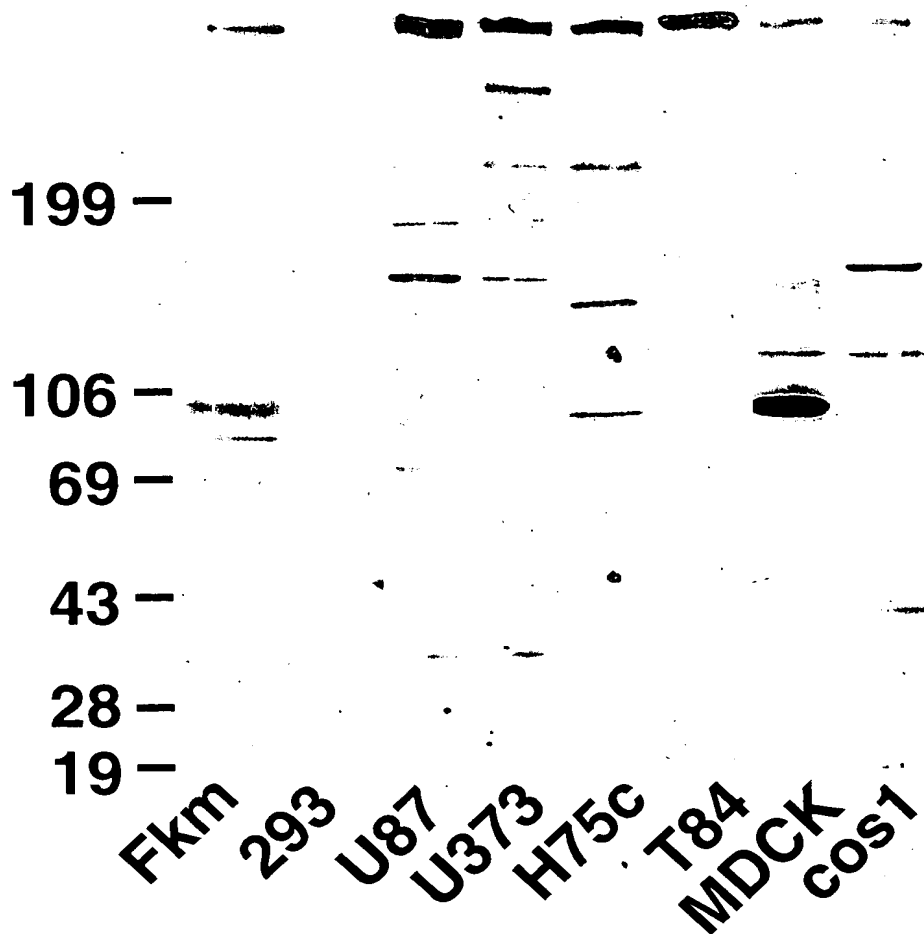
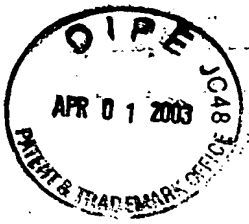


FIG. 10D



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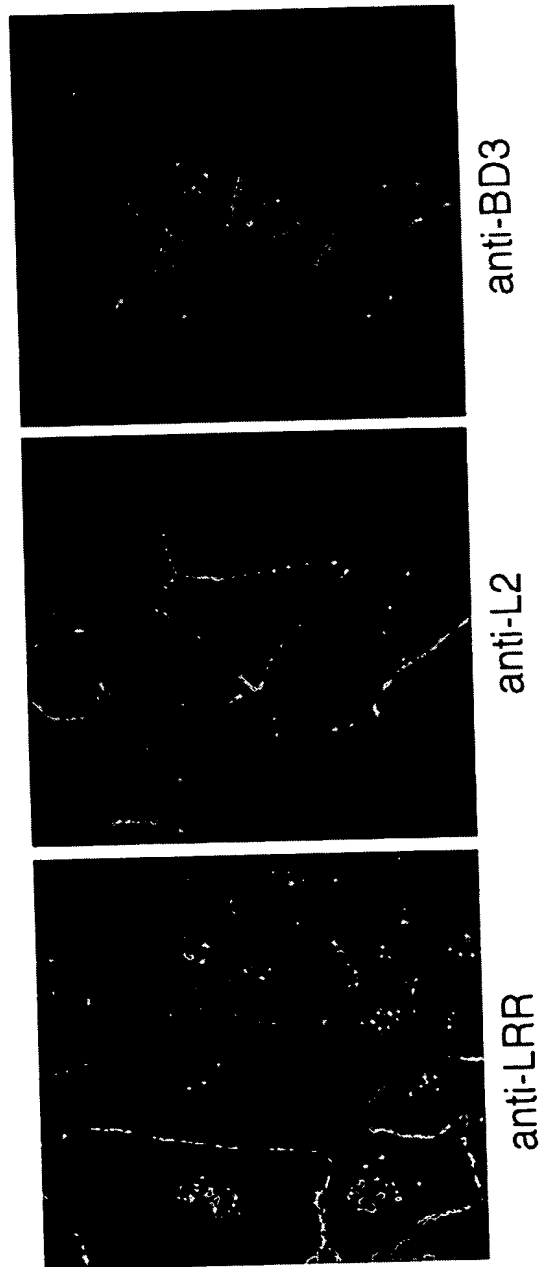


FIG. 11

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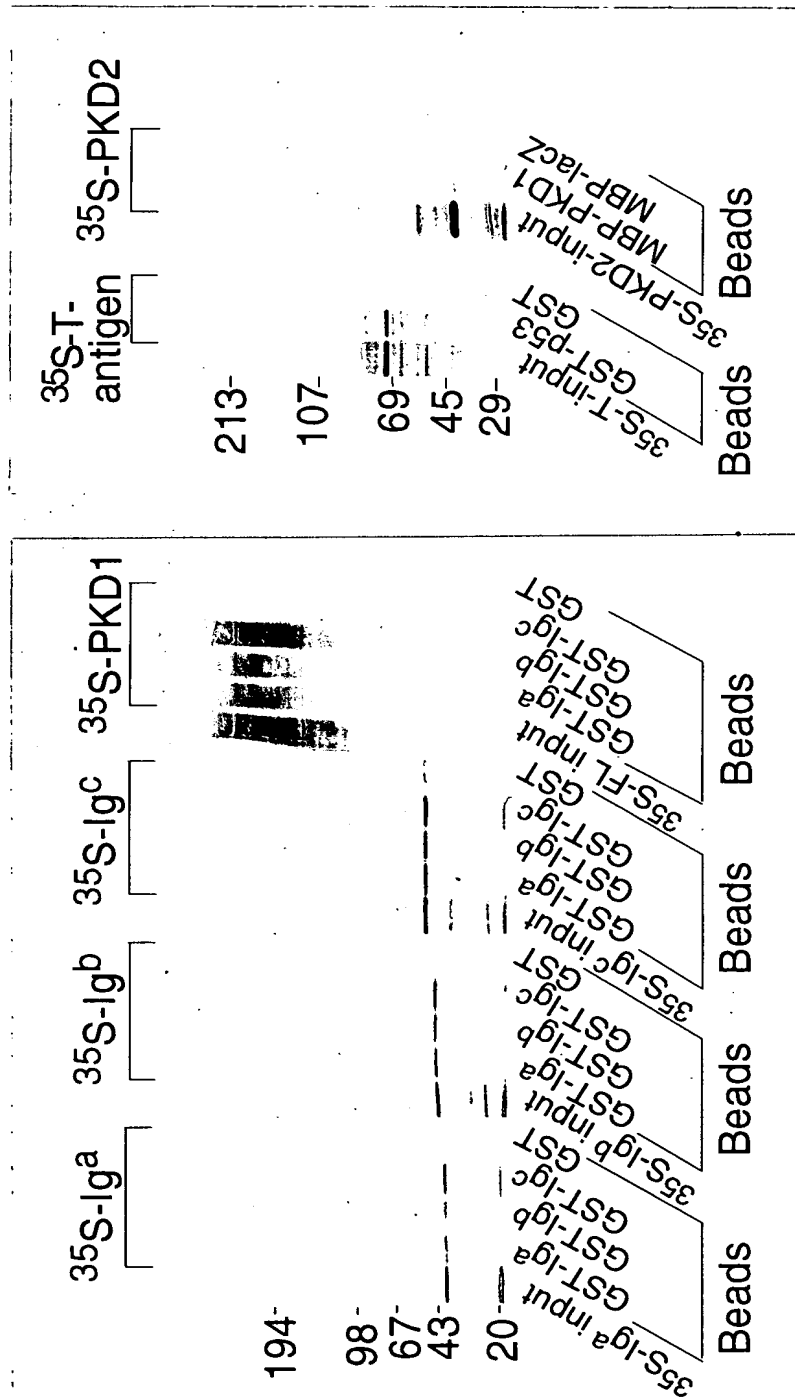


FIG. 12C

FIG. 12B



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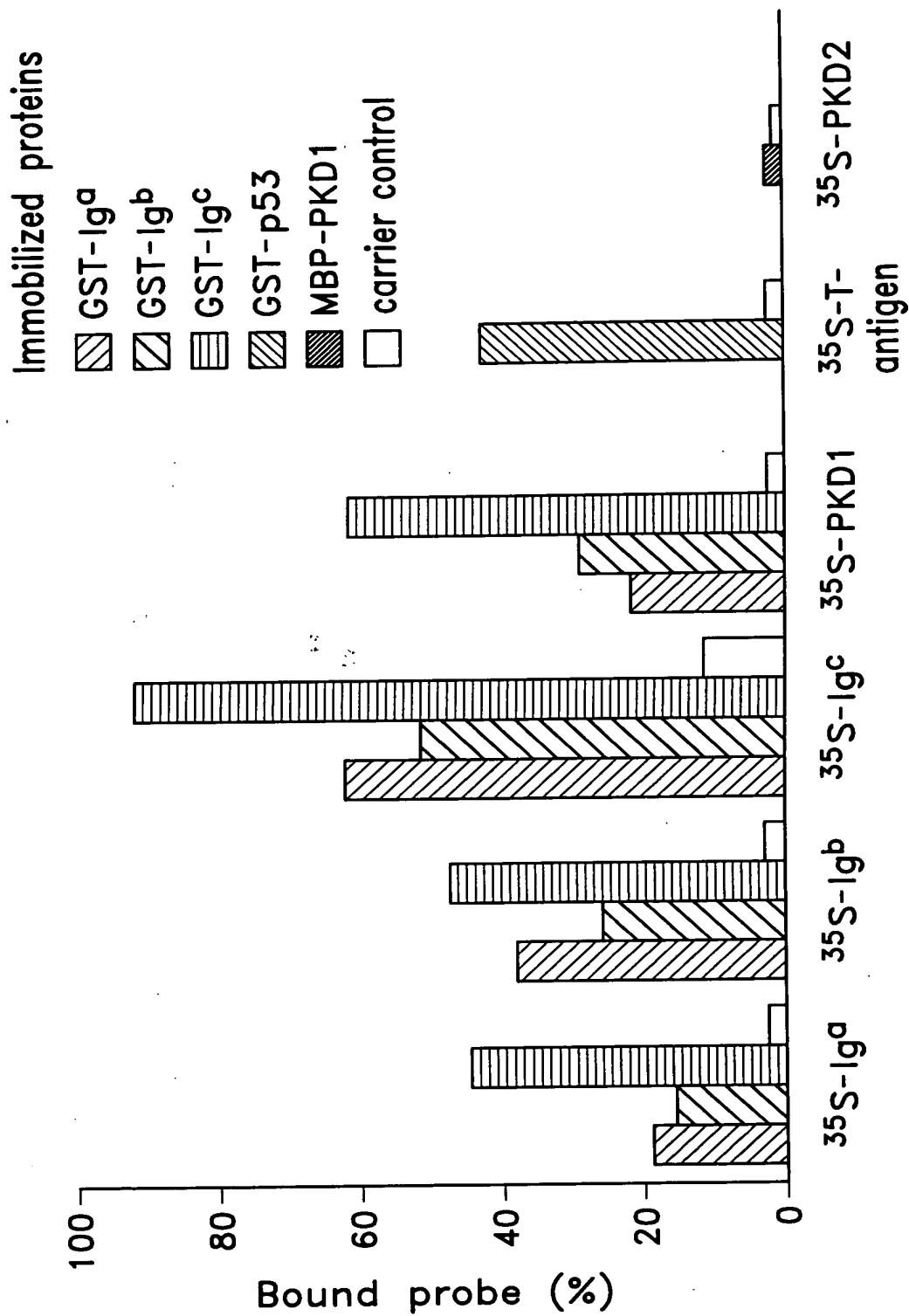


FIG. 13



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FIG. 14A



FIG. 14B